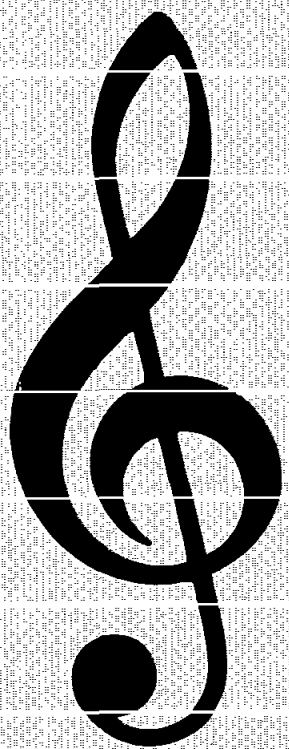
Technics

KEYBOARD

SX-KN1400
SX-KN1600



ENGLISH

QQTG0489A

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY. (For UNITED KINGDOM)

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.
A 5 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⓐ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic/Technics Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFETY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT-OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT: —The wires in this mains lead are coloured in accordance with the following code:—

Blue: Neutral
Brown: Live

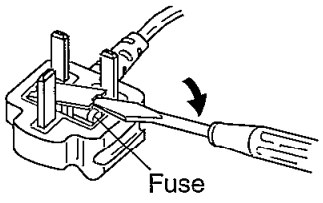
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three-pin plug, marked with the letter E or the Earth Symbol ⏚.

How to replace the fuse. Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



Technics

OWNER'S MANUAL

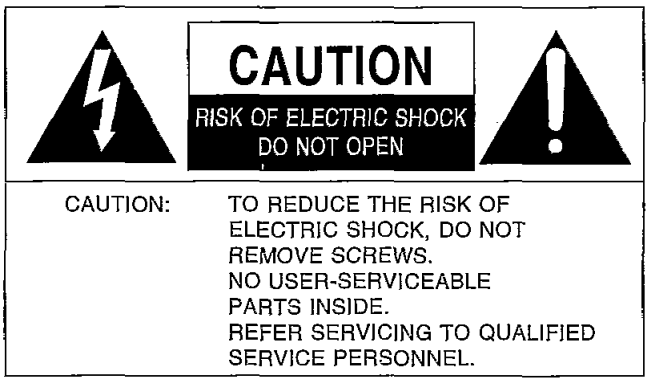
Caution

Voltage (except North America, Mexico, Europe, Australia, New Zealand, Singapore and Philippines)

Be sure the voltage adjuster located on the rear panel is in accordance with local voltage in your area before using this unit. Use a screwdriver to set the voltage adjuster to the local voltage.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

BEFORE YOU PLAY, PLEASE READ THE CAUTIONARY COPY APPEARING ON PAGE 4.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Before you play

For long and pleasurable use of this instrument, and to gain a thorough understanding of your **KN1400/KN1600** Keyboard, it is strongly recommended that you read through this Owner's Manual once.

The Owner's Manual is comprised of the following parts.

BASIC FUNCTIONS	This part includes an explanation of basic procedures and points you should be aware of for proper operation of your instrument.
PRACTICAL APPLICATIONS	This part comprises a detailed explanation of sound, effect, rhythm, **SEQUENCER**, **COMPOSER**, Disk Drive and MIDI.
REFERENCE GUIDE (separate booklet)	Reference guide for the contents of the **SOUND GROUP**, **RHYTHM GROUP**, MIDI data, etc.

Cautions for safest use of this unit

Installation location

1. A well-ventilated place.
   Take care not to use this unit in a place where it will not receive sufficient ventilation, and not to permit the ventilation holes to be covered by curtains, or any similar materials.
2. Place away from direct sunlight and excessive heat from heating equipment.
3. A place where humidity, vibration and dust are minimized.

Power source

1. Be sure the line voltage selector is in accordance with local voltage in your area before connecting the plug to the socket.
2. [**KN1400**] Be sure to use only AC adaptor model SY-AD6 or SY-AD6B.
   [**KN1600**] DC power cannot be used.

Handling the power cord

1. Never touch the power cord, or its plug, with wet hands.
2. Don't pull the power cord.

Metal items inside the unit may result in electric shock or damage.

Do not permit metal articles to get inside the unit.

Be especially careful with regard to this point if children are near this unit. They should be warned never to try to put anything inside.

If, nevertheless, some such article does get inside, disconnect the power cord plug from the electrical outlet, and contact the store where the unit was purchased.

If water gets into the unit

Disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

As a precaution, it is suggested that flower vases and other containers which hold liquids not be placed on the top of this unit.

If operation seems abnormal

Immediately turn off the power, disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

Discontinue using the unit at once. Failure to do so may result in additional damage or some other unexpected damage or accident.

- Because the power source is located inside the unit, it is normal for the cabinet to become warm.

A word about the power cord

If the power cord is scarred, is partially cut or broken, or has a bad contact, it may cause a fire or serious electrical shock if used. NEVER use a damaged power cord for any appliance. Moreover, the power cord should never be forcibly bent.

Don't touch the inside parts of this unit.

Some places inside this unit have high voltage potential. Never try to remove the top or back panels of this unit, or to touch inside parts by hand or with tools.

Contact someone who is qualified in order to inspect the inside, or to replace a fuse, if such becomes necessary. Never attempt to do these things yourself.

Maintenance

The following suggestions will assist you in keeping the unit in top condition.

- Be sure to switch the instrument off after use, and do not switch the unit on and off in quick succession, as this places an undue load on the electronic components.
- Unplug the power cord if the unit will not be used for a long time.
  [**KN1400**] Appreciable current remains present when the AC adaptor is plugged in, even with the **PLAY** switch turned off.
- To keep the luster of the surface and buttons, simply use a clean, damp cloth; polish with a soft, dry cloth. Polish may be used but do not use thinners or petro-chemical-based polishes.
- A wax-based polish may be used on the cabinet, although you will find that rubbing with a soft cloth will suffice.

SERVICE MUST BE CARRIED OUT BY DEALER OR OTHER QUALIFIED PERSON

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■ Supplied accessories

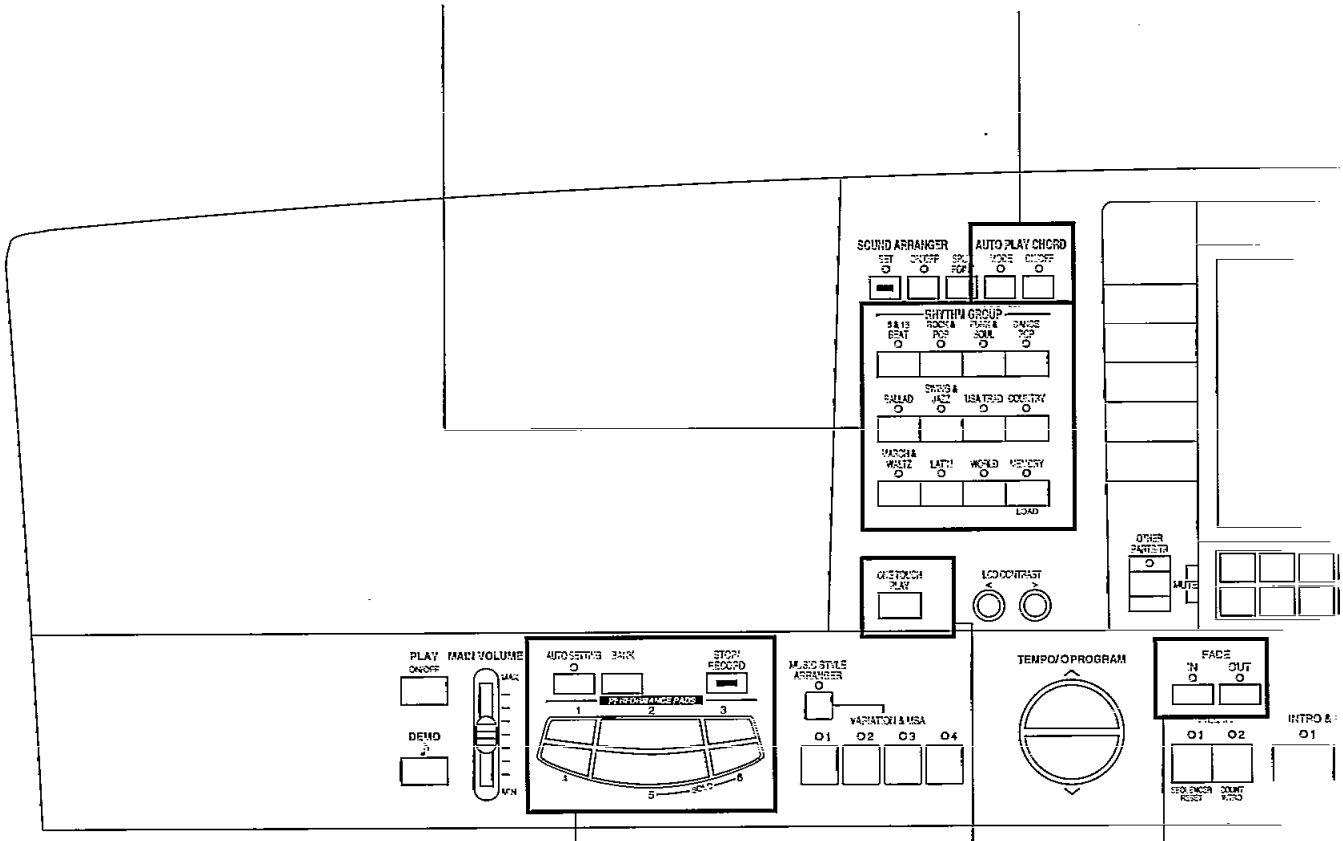
Please check the supplied accessories.

- ☐ **Music stand**
- ☐ **AC cord (KN1600)**
- ☐ **STYLE CONVERT disk (KN1600)**

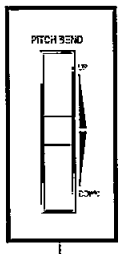
Controls and functions (KN1400)

RHYTHM GROUP
Various rhythm patterns are available for each rhythm group. (Refer to page 54.)

AUTO PLAY CHORD
Add an automatic accompaniment to your selected rhythm. (Refer to page 57.)



PERFORMANCE PADS
Add various phrases to your performance with the pad buttons. (Refer to page 47.)



PITCH BEND
The **PITCH BEND** wheel allows a "sliding" change in the pitch. (Refer to page 43.)

ONE TOUCH PLAY
Sounds and effects matching the selected rhythm are automatically set. (Refer to page 65.)

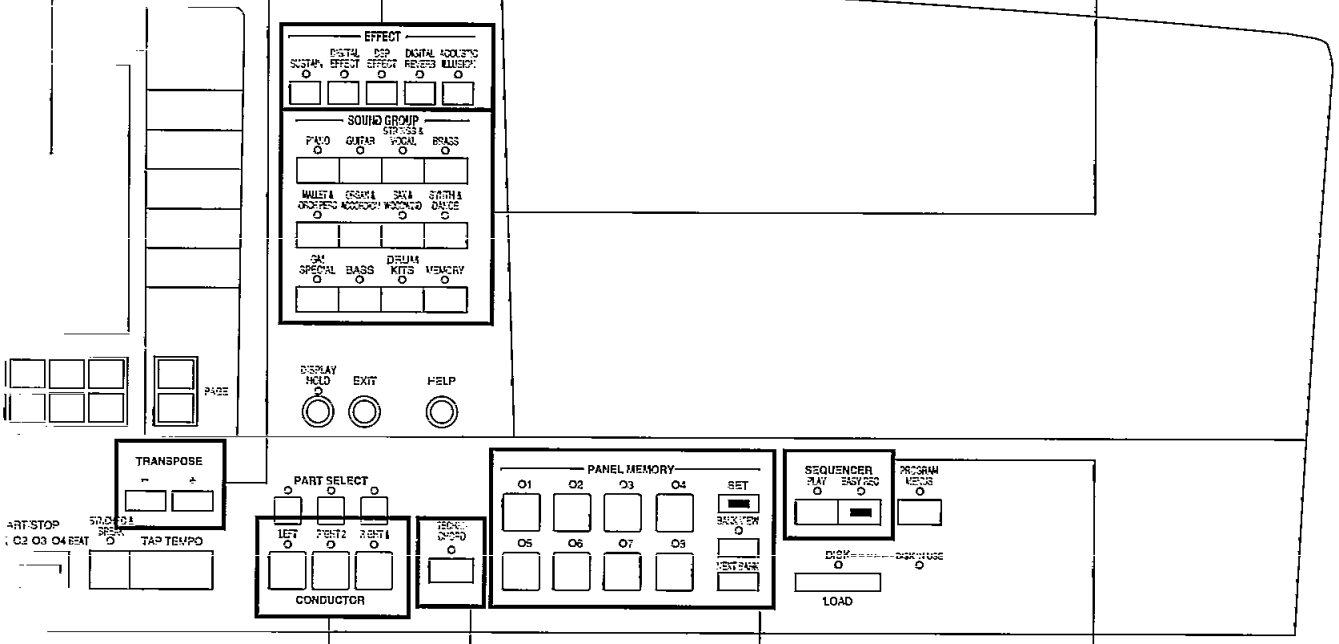
FADE IN/OUT
Begin your song with a slowly increasing volume, or end it by having the sound slowly fade away. (Refer to page 62.)

DISPLAY
Displays performance information, function settings and other messages.
(Refer to page 30.)
- Use the **LCD CONTRAST** buttons to adjust the display so that it is easy to read.

EFFECT
Add various effects to the sounds. (Refer to page 40.)

TRANSPOSE
Raise or lower the key of the entire keyboard.
(Refer to page 44.)

SOUND GROUP
Various sounds are available for each sound group.
(Refer to page 35.)



TECHNI-CHORD
Block chords are automatically added to the melody. (Refer to page 45.)

SEQUENCER
Record and play back your performance.
(Refer to page 72.)

CONDUCTOR
Assign a different sound to each part, then assign the desired parts to sections of the keyboard.
(Refer to page 38.)

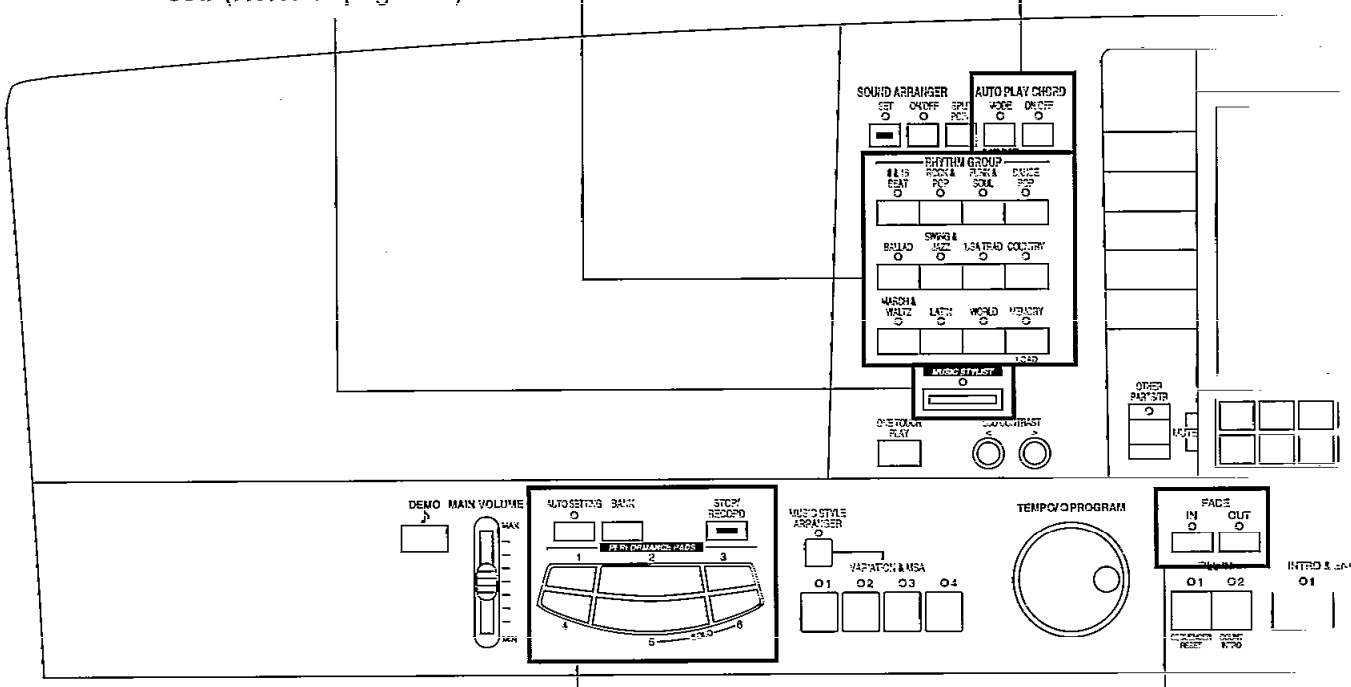
PANEL MEMORY
Store the panel settings, then recall them instantaneously just by pressing a button or two. (Refer to page 69.)

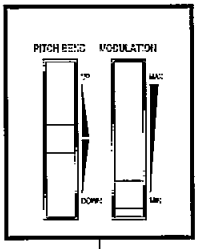
Controls and functions (KN1600)

RHYTHM GROUP
Various rhythm patterns are available for each rhythm group. (Refer to page 54.)

AUTO PLAY CHORD
Add an automatic accompaniment to your selected rhythm. (Refer to page 57.)

MUSIC STYLIST
You can choose to have all the settings of this instrument automatically set. (Refer to page 66.)





PERFORMANCE PADS
Add various phrases to your performance with the pad buttons. (Refer to page 47.)

FADE IN/OUT
Begin your song with a slowly increasing volume, or end it by having the sound slowly fade away. (Refer to page 62.)

PITCH BEND/MODULATION
The **PITCH BEND** wheel allows a "sliding" change in the pitch. The **MODULATION** wheel is used to add vibrato to the sound. (Refer to page 43.)

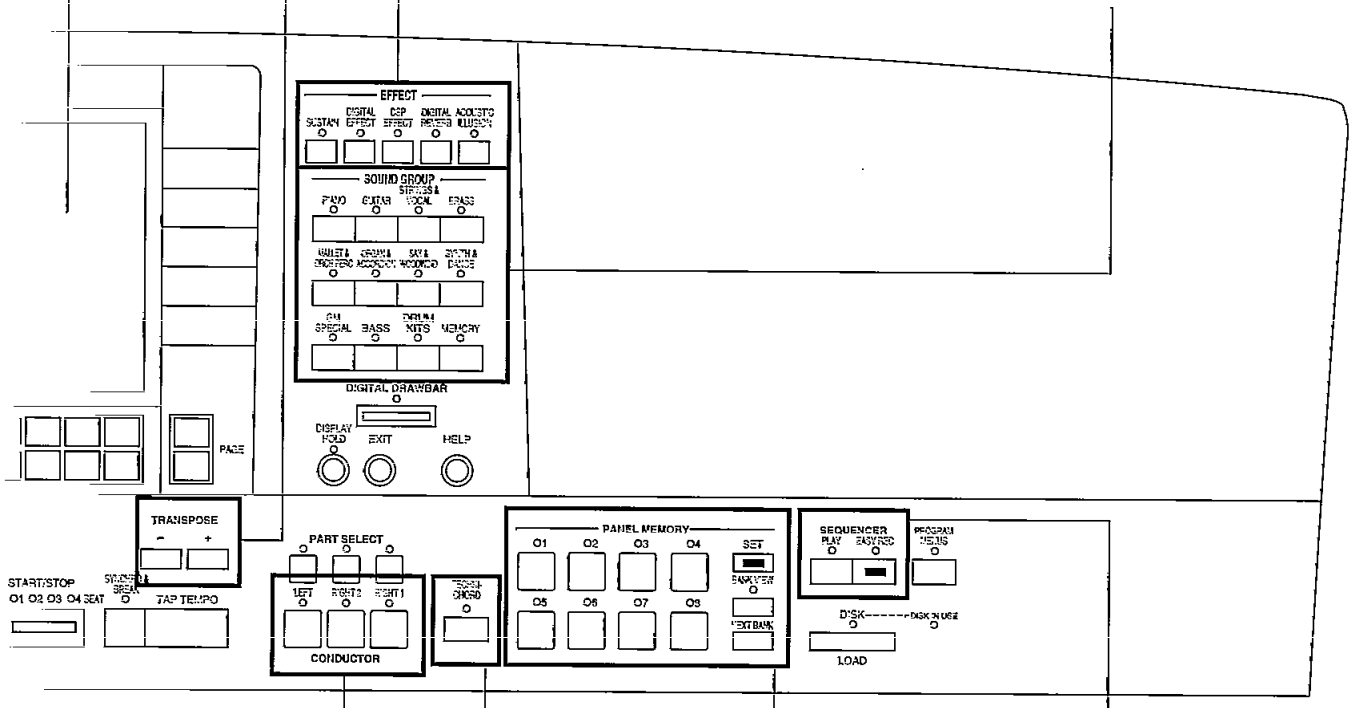
DISPLAY
Displays performance information, function settings and other messages.
(Refer to page 30.)

- Use the **LCD CONTRAST** buttons to adjust the display so that it is easy to read.

EFFECT
Add various effects to the sounds. (Refer to page 40.)

TRANSPOSE
Raise or lower the key of the entire keyboard.
(Refer to page 44.)

SOUND GROUP
Various sounds are available for each sound group.
(Refer to page 35.)



TECHNI-CHORD
Block chords are automatically added to the melody. (Refer to page 45.)

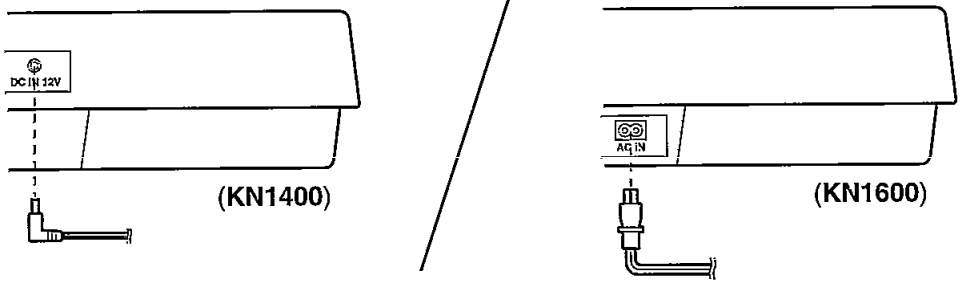
SEQUENCER
Record and play back your performance.
(Refer to page 72.)

CONDUCTOR
Assign a different sound to each part, then assign the desired parts to sections of the keyboard.
(Refer to page 38.)

PANEL MEMORY
Store the panel settings, then recall them instantaneously just by pressing a button or two. (Refer to page 69.)

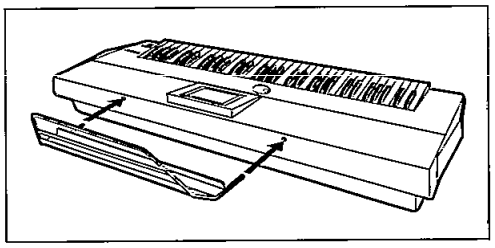
Getting started

Before you play



1 **KN1400**: Connect the AC adaptor (sold separately).
KN1600: Plug the power cord into an outlet.

2 Affix the music stand as shown.

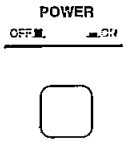


3 Press the **PLAY (KN1400)/ POWER (KN1600)** button to turn it on.

(KN1400)

(Left end of panel)

(KN1600)



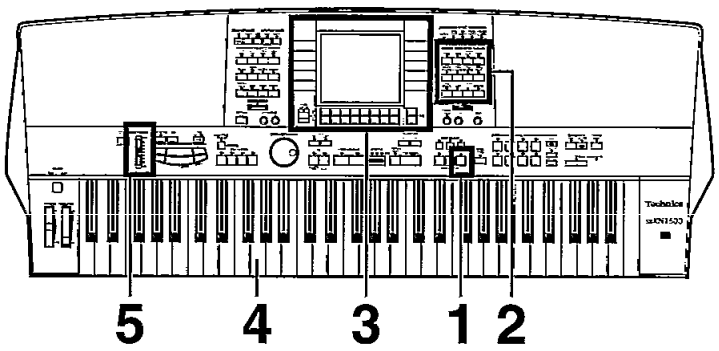
(Left end of the keyboard)

<KN1400>
The AC adaptor is sold separately. One of the following AC adaptors (12V, 2A) can be used: SY-AD6 or AD6B.

- Be sure to use one of the above adaptor models, as use of a different adaptor may result in damage to the instrument.
- Do not connect or disconnect the AC adaptor while the power is on.

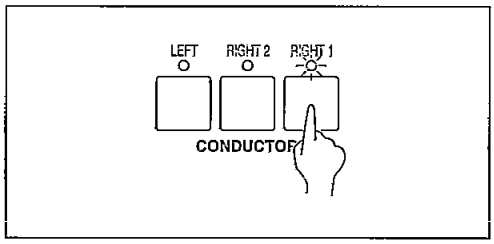
- The pitch of this instrument can be adjusted for when playing with other instruments. (Refer to page 137.)
- For information on this instrument's backup function, refer to page 180.
- Under certain conditions, the functions and memories of this instrument may be initialized when the power is turned on.

Playing

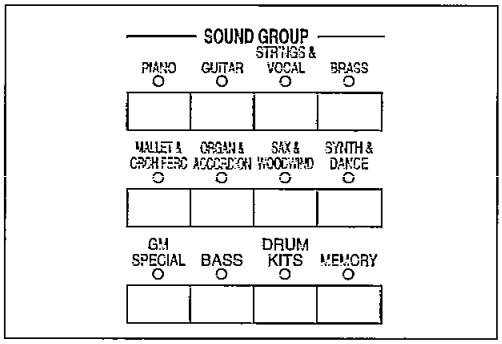


(KN1600)

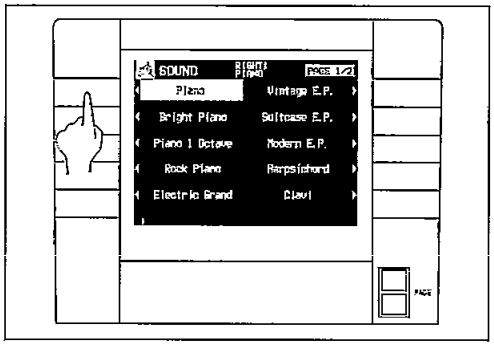
1 In the **CONDUCTOR** section on the panel, press the **RIGHT 1** button to turn it on.



2 In the **SOUND GROUP** section, press one of the sound buttons.



3 Select a sound from the list of sounds shown on the display.



- The list of sounds is contained on two or more screen "pages". To see a different part of the list, press either **PAGE** button.

4 Play the keyboard.

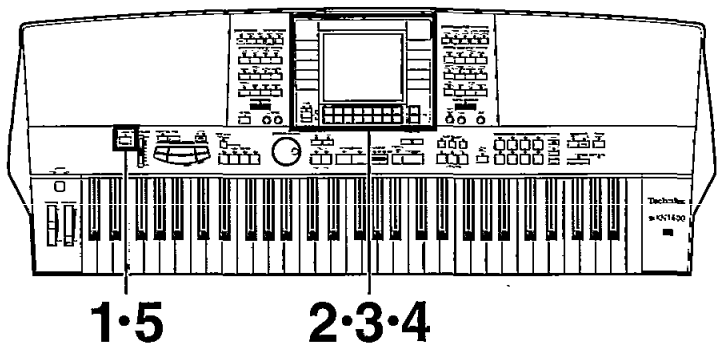
- Your Keyboard features Touch Response. You control the volume by playing the keys harder or softer.

5 Set the **MAIN VOLUME** to an appropriate level with the sliding control.

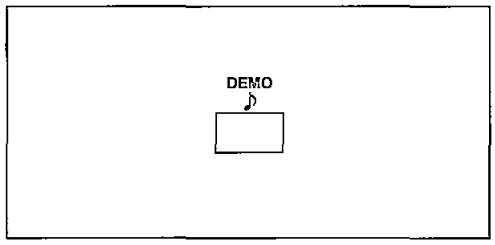
- Displays such as those for selecting sounds and rhythms revert to the previous display shortly after you make your selection. You can use the DISPLAY TIME OUT function to adjust the time elapsed before the display reverts to the previous display or even suspend the reversion. (Refer to page 164.)

Listen to the demonstration

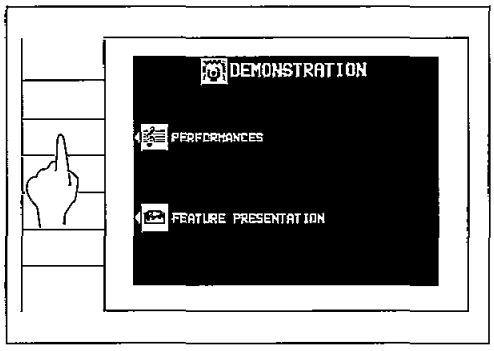
Select and listen to the demonstration tunes.



1 Press the **DEMO** button.

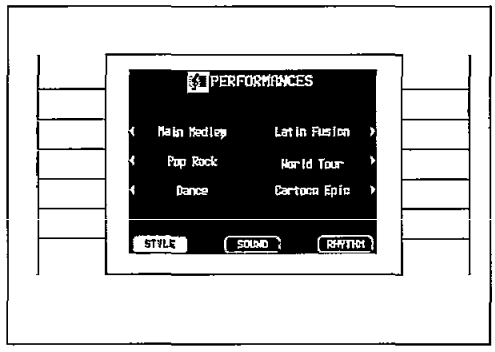


2 Select PERFORMANCES from the display.



3 Use the buttons below the display to select the type of demo performance you wish to hear (STYLE, SOUND, RHYTHM).

4 Use the buttons to the left and right of the display to select the demonstration tune you wish to listen to.

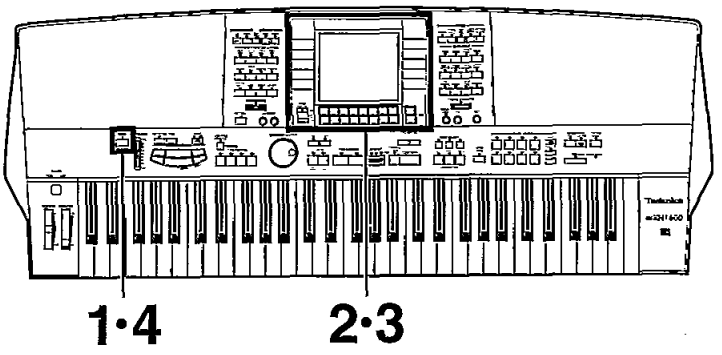


- The demonstration performance corresponding to your selection will begin.
- To end the demonstration before it has finished, again press the button for the selected demo tune.
- Repeat steps 3 and 4 to listen to the other demo tunes.

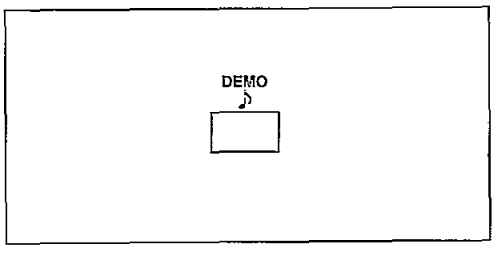
5 When you are finished listening to the demonstration tunes, press the **DEMO** button again.

- If you press and hold the **DEMO** button for a few seconds, or if you press first the **DEMO** button and then the **START/STOP** button, all PERFORMANCES demo tunes are demonstrated in order in a medley performance. The medley performance continues until the **START/STOP** button or the **DEMO** button is pressed again.
- Some of the buttons do not function during the DEMO mode.

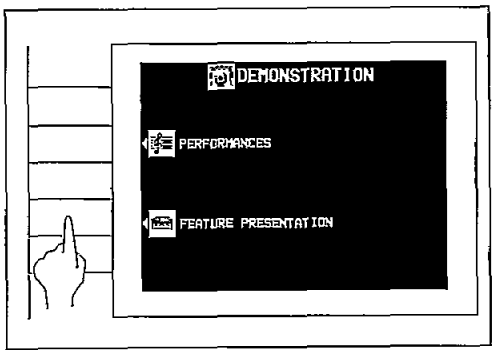
Listen to tunes that demonstrate various features.



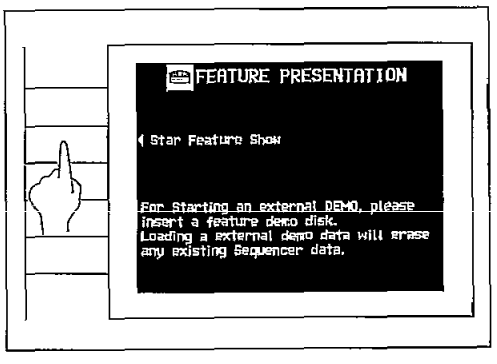
1 Press the **DEMO** button.



2 Select FEATURE PRESENTATION from the display.



3 Press the "Star Feature Show" button.


FEATURE PRESENTATION
Star Feature Show
For Starting an external DEMO, please insert a feature demo disk.
Loading a external demo data will erase any existing Sequencer data.

- The FEATURE PRESENTATION demo will begin.
- You can also press the **START/STOP** button to begin the demo. In this case, the demo is repeated until the **START/STOP** button is pressed again.

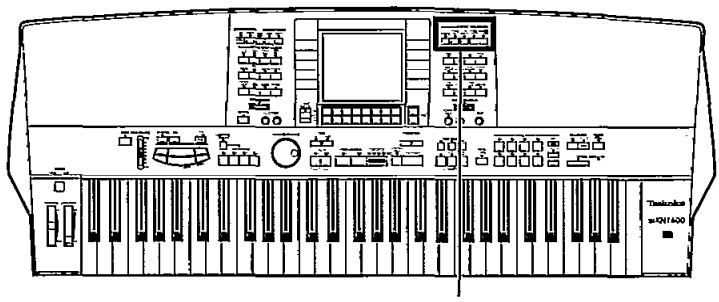
■ Demo playback from a disk

You can play back the FEATURE PRESENTATION recorded in a floppy disk. After activating the FEATURE PRESENTATION display, when a disk with this data is inserted into the Disk Drive slot, the display automatically changes. Press the "DEMO from Disk" button.

- Please note that this procedure will erase any other data recorded in the **SEQUENCER**.
- You can also press the **START/STOP** button to begin the demo. In this case, the "Internal DEMO" and "DEMO from Disk" are played back in a medley until the **START/STOP** button is pressed again.

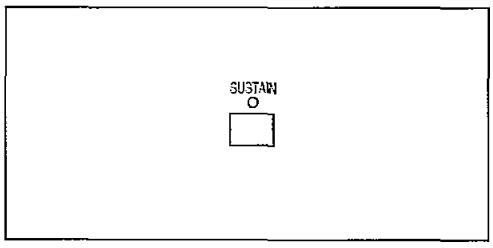
4 When you are finished listening to the demonstration tunes, press the **DEMO** button again.

Add effects



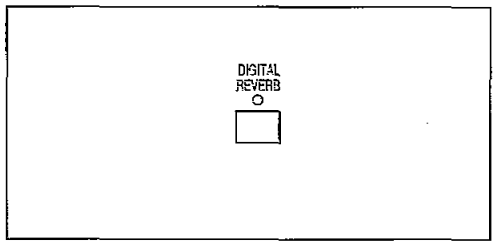
Add sustain.

A Press the **SUSTAIN** button to turn it on.



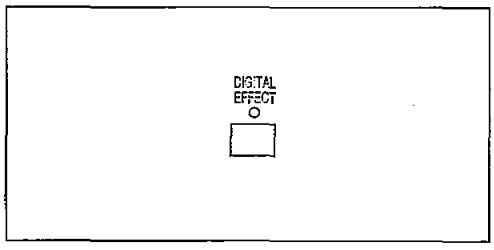
Add reverberation.

C Press the **DIGITAL REVERB** button to turn it on.



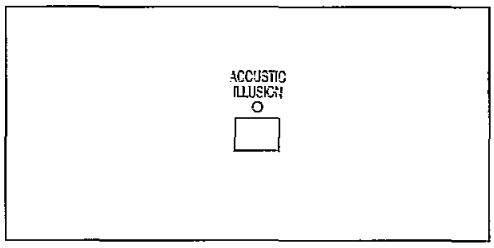
Add a feeling of spaciousness to the sound.

B Press the **DIGITAL EFFECT** button to turn it on.

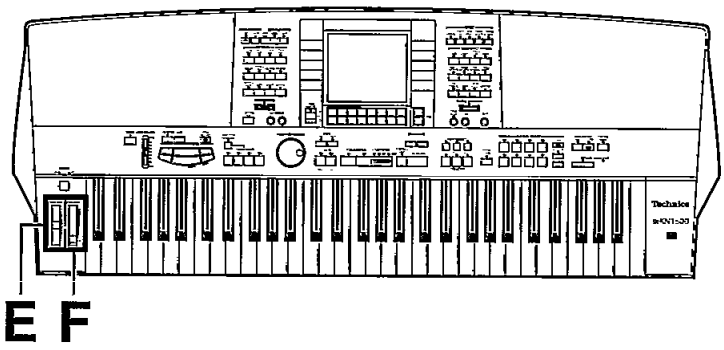


Add a dimension of expansion to the sound.

D Press the **ACOUSTIC ILLUSION** button to turn it on.

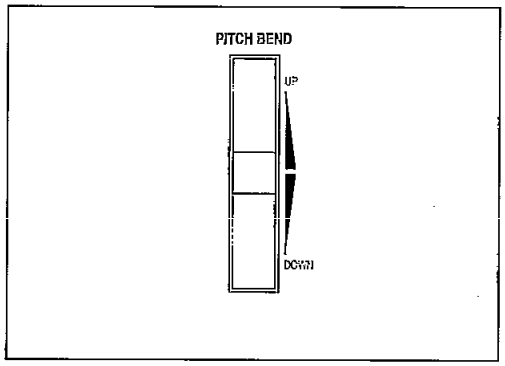


- For details about the **DSP EFFECT** refer to page 41.



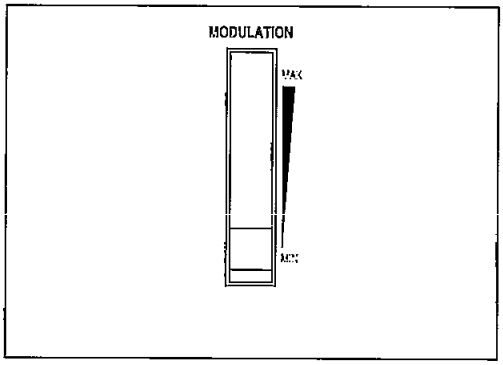
Slide the pitch up or down.

E While pressing a key on the keyboard, move the **PITCH BEND** wheel up and down to control the pitch.



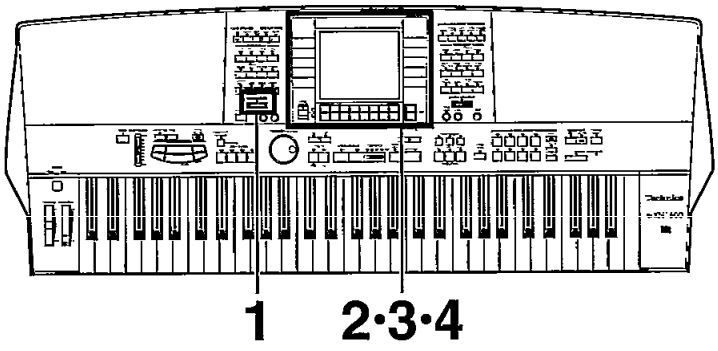
Add vibrato. (KN1600)

F While pressing a key on the keyboard, move the **MODULATION** wheel up to add the effect.

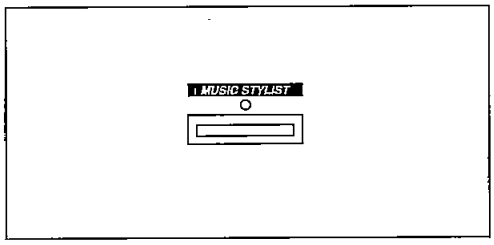


- When you release your hand from the **PITCH BEND** wheel, it returns automatically to the center position.
- **KN1600**: When the vibrato effect is not needed, set the **MODULATION** wheel to the **MIN** position.
- You can use the SOUND function to change the **DIGITAL REVERB** settings by selecting from preset settings, for example, and to make fine adjustments to the various effects. (Refer to page 131.)

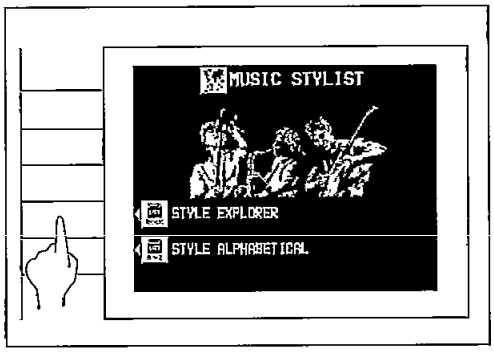
Select the registration for a music style (MUSIC STYLIST) (KN1600)



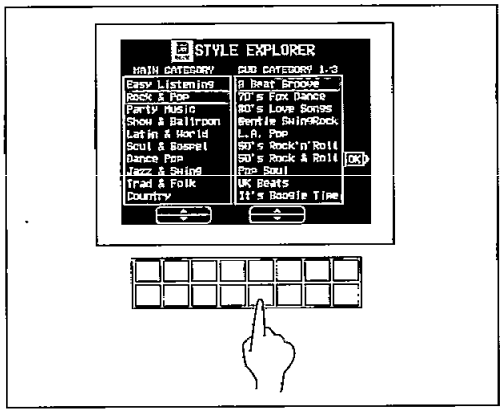
1 Press the **MUSIC STYLIST** button to turn it on.



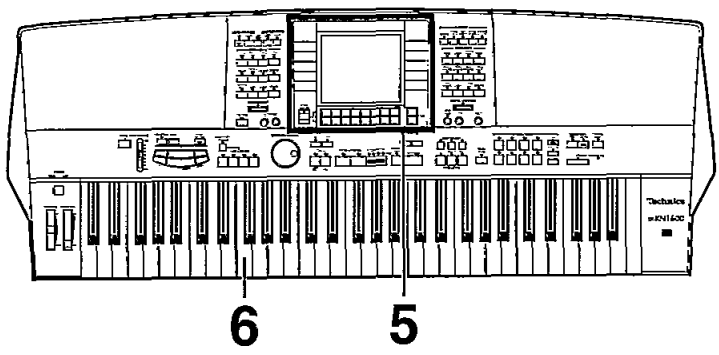
2 Select STYLE EXPLORER.



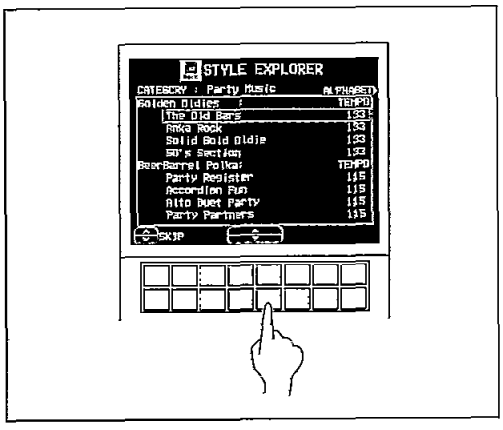
3 Use the MAIN CATEGORY ▲ and ▼ buttons to select a category. Use the SUB CATEGORY ▲ and ▼ buttons to select a subcategory.



4 Press the OK button.



5 Use the ▲ and ▼ buttons to select a music style.



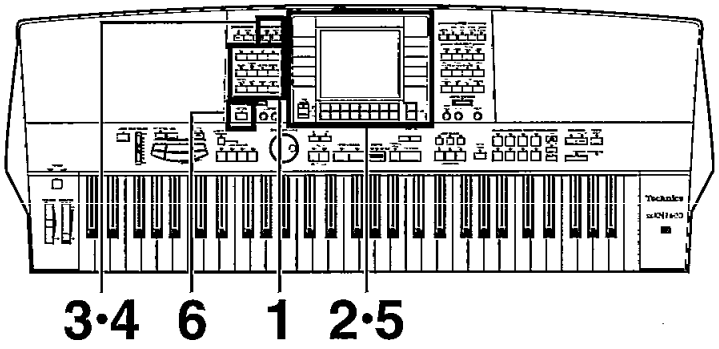
- You can use the SKIP∧ and ∨ buttons to skip to the previous or following category.
- When you select a style, the sounds and rhythm which are best suited for the selected style are automatically selected.

6 Play the keyboard.

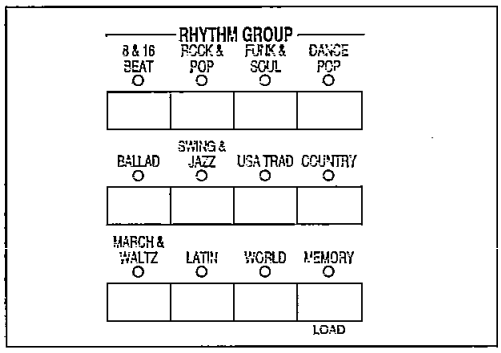
- When you specify a chord, an intro is played, after which the automatic rhythm starts.

Automatic panel settings

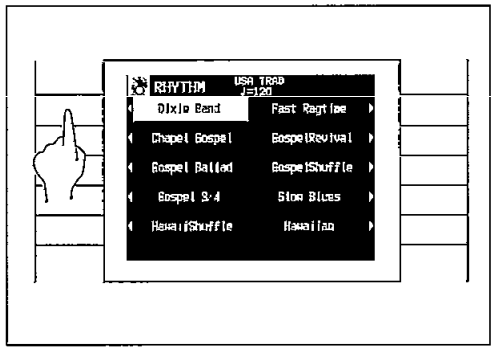
(ONE TOUCH PLAY)



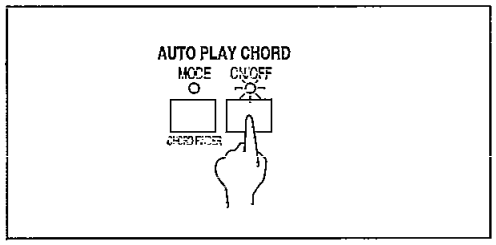
1 In the **RHYTHM GROUP** section, press the button for a desired rhythm.



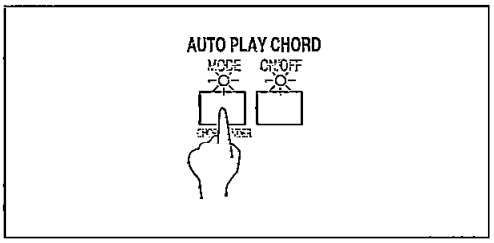
2 Select a rhythm from the list of rhythms on the display.



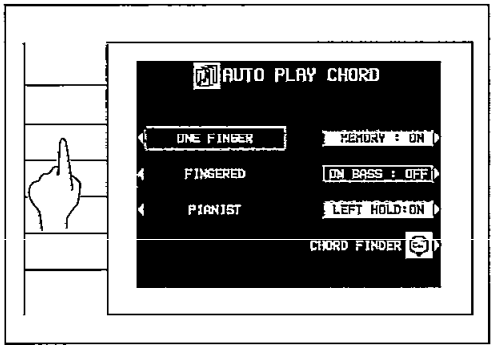
3 Press the **AUTO PLAY CHORD**'s **ON/OFF** button to turn it on.



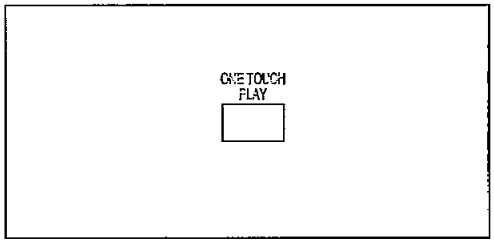
4 Press the **AUTO PLAY CHORD**'s **MODE** button to turn it on.



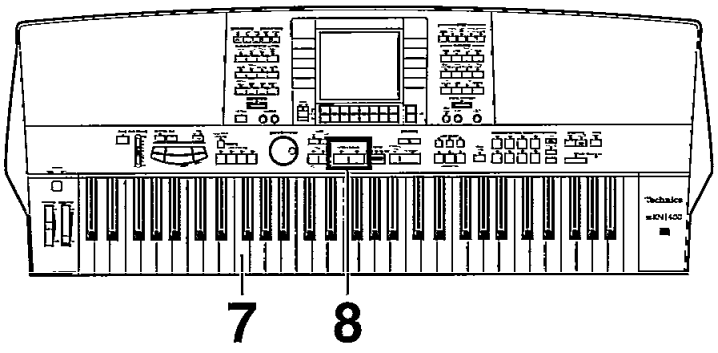
5 Select ONE FINGER on the display.

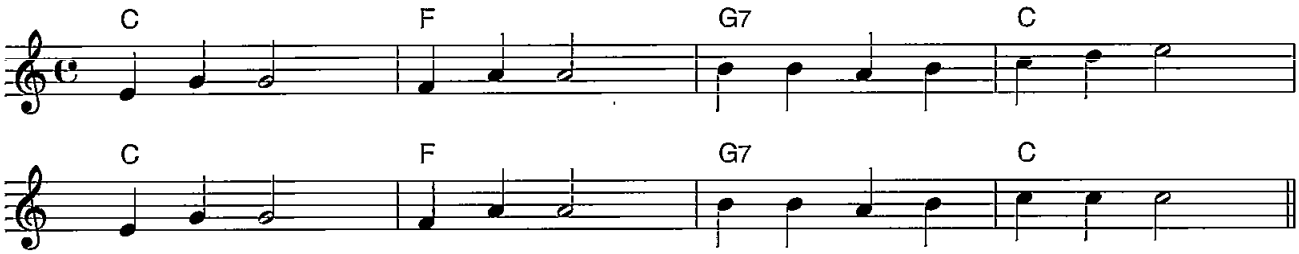


6 Press and hold the **ONE TOUCH PLAY** button for a few seconds.



- The sound, effects and tempo suitable for the selected rhythm are automatically selected. The tempo can be adjusted with the **TEMPO/PROGRAM**.

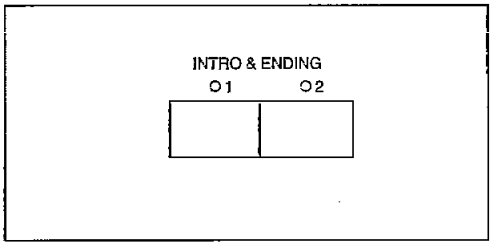




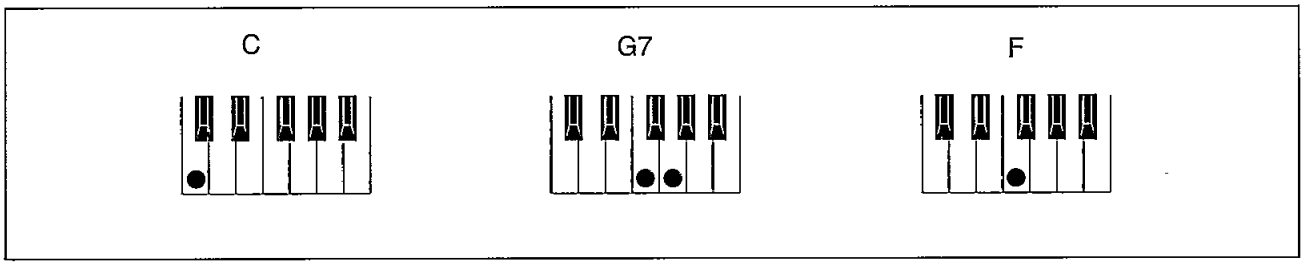
7 Use your left hand to play the chords and your right hand to play the melody.

- Pressing a key on the left area of the keyboard will cause the automatic rhythm pattern to start playing (synchro start).

8 At the end of your performance, press the **INTRO & ENDING 1** or **2** button.

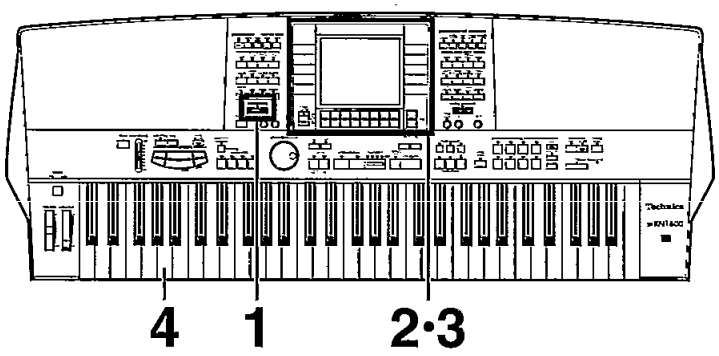


- An ending pattern is played, after which the automatic accompaniment stops.
- If the **START/STOP** button is pressed, the accompaniment stops immediately.

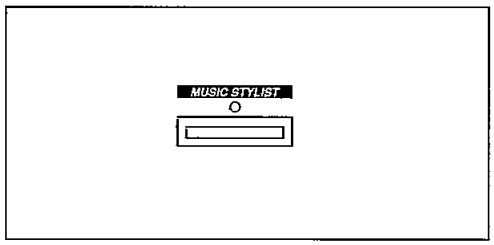


- In this example you played chords by pressing the keys for the "root notes" (ONE FINGER chords). But you can also specify the chord by playing all the notes in the chord. (Refer to page 58.)
- You can insert a fill-in pattern while the preset rhythm pattern is playing by pressing either the **FILL IN 1** or **FILL IN 2** button.

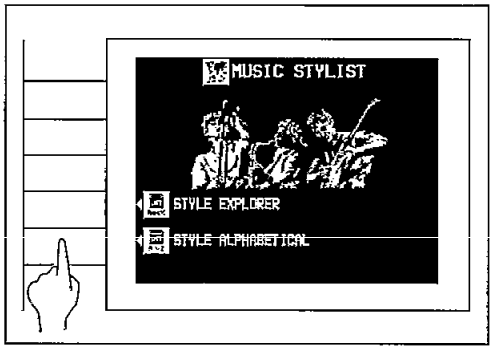
Search for a music style alphabetically. (KN1600)



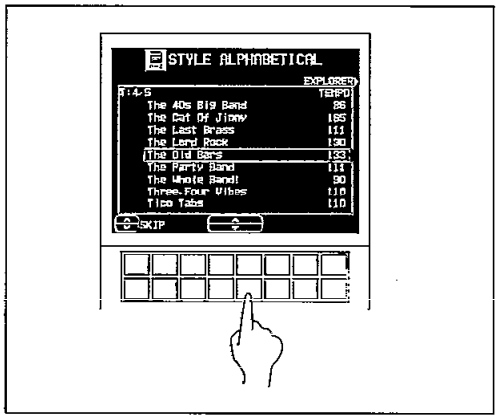
1 Press the **MUSIC STYLIST** button to turn it on.



2 Select STYLE ALPHABETICAL.



3 Use the ▲ and ▼ buttons to select a music style.



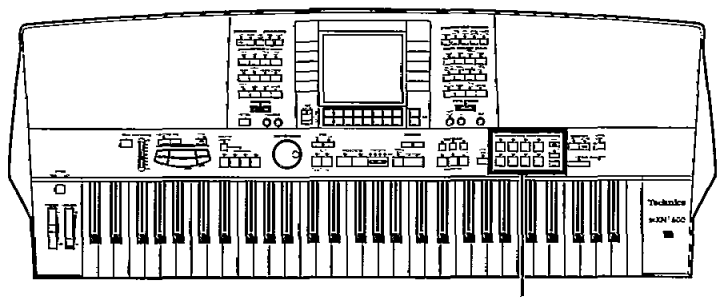
- You can use the SKIP ∧ and ∨ buttons to skip to the previous or following alphabetical or numerical heading.
- When you select a music style, the sounds and rhythm which are best suited for the selected tune are automatically selected.

4 Play the keyboard.

- When you specify a chord, an intro is played, after which the automatic rhythm starts.

Store your panel settings

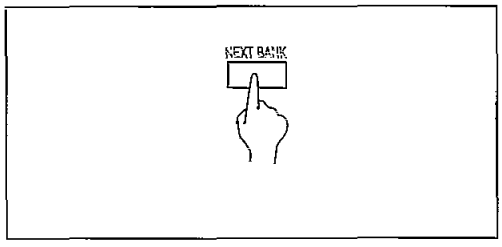
(PANEL MEMORY)



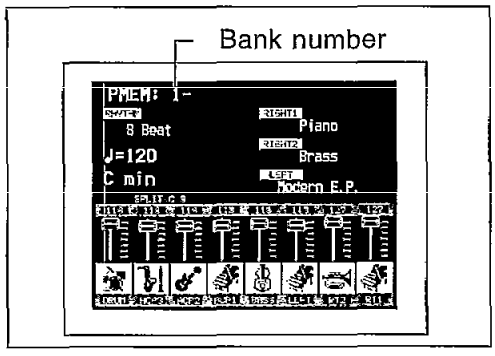
2·3

1 Set up the desired panel settings (sounds, volumes, etc.)

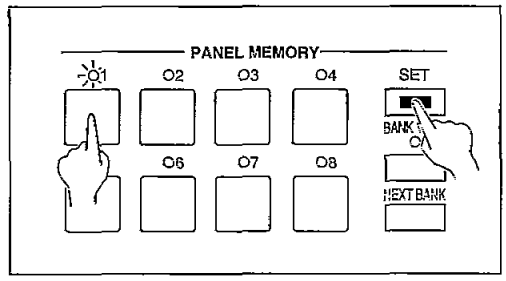
2 Use the **NEXT BANK** button to select a bank (1 to 3).



- The bank numbers are shown on the display.



3 With the **SET** button held down, press one of the numbered buttons of the **PANEL MEMORY** (1 to 8).

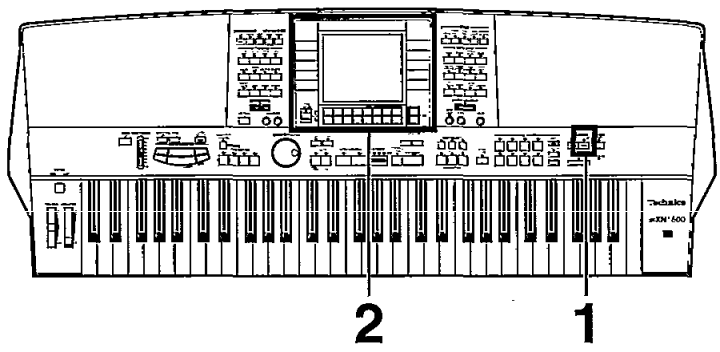


- The current panel settings are now stored in the specified bank and number. When you select the same bank and number again, the stored panel settings are recalled.

- If you do not wish to recall the rhythm, tempo, etc. with the **PANEL MEMORY**, press and hold the **SET** button for a few seconds to show the PANEL MEMORY MODE display, and select NORMAL.

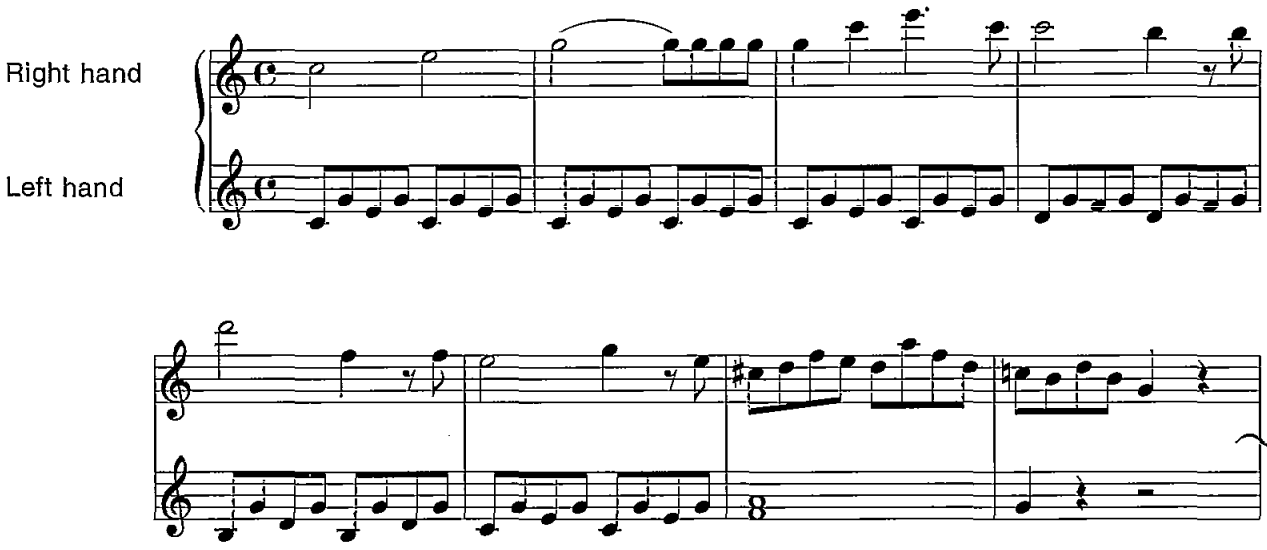
Record your performance

(SEQUENCER)

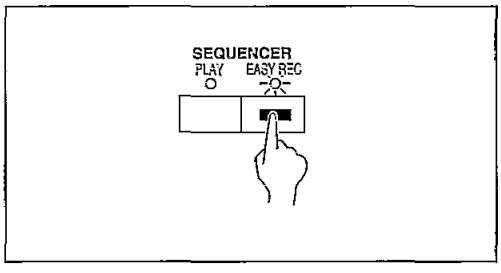


Sonatina

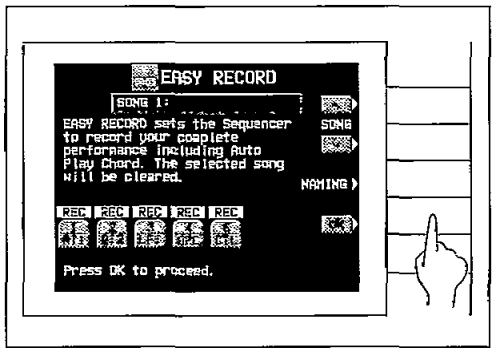
Sound: Piano (**RIGHT 1** part)



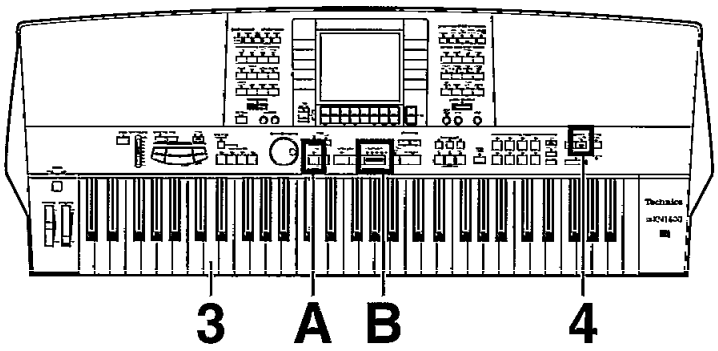
1 In the **SEQUENCER** section, press the **EASY REC** button to turn it on.



2 Press the OK button.

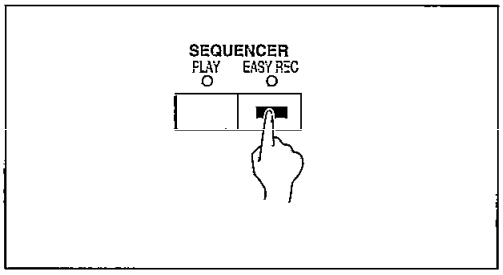


- The display changes to the REALTIME RECORD display.



3 Play the song on the keyboard.

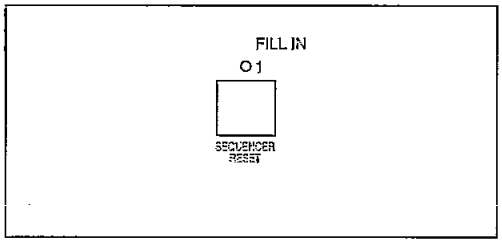
4 When you have finished playing, press the **EASY REC** button again to turn it off.



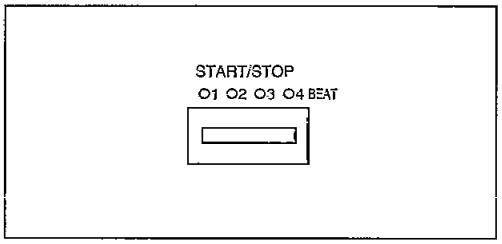
- The **PLAY** button in the **SEQUENCER** section turns on.

Playing back your recorded performance

A Press the **SEQUENCER RESET (FILL IN 1)** button.

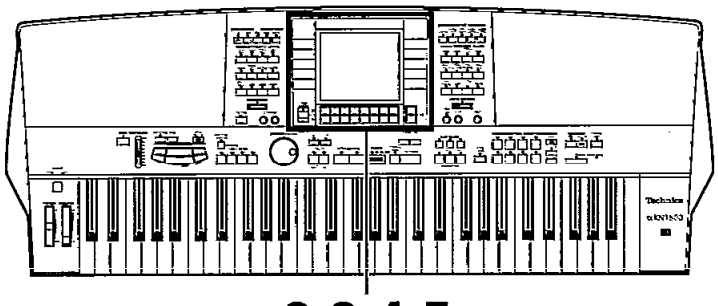


B Press the **START/STOP** button.



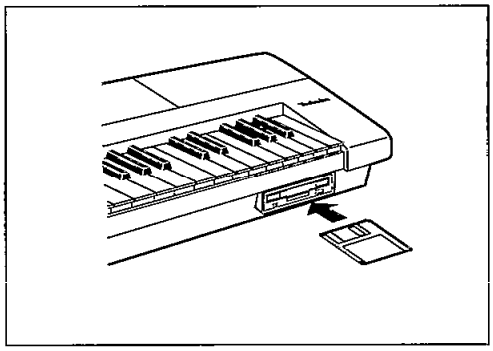
- Your performance is played back just as you recorded it.
- When you are finished playing back your performance, press the **PLAY** button in the **SEQUENCER** section to turn it off.

Save data on a floppy disk

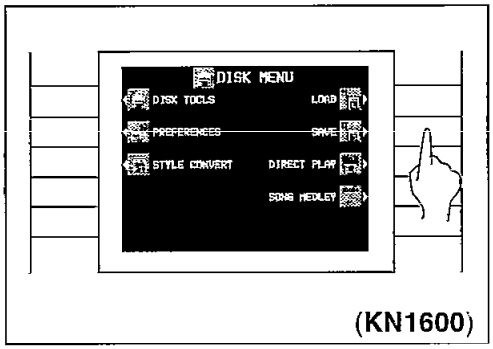


2·3·4·5

1 Insert a disk you wish to save to into the Disk Drive slot. Push it all the way in until you hear a click.



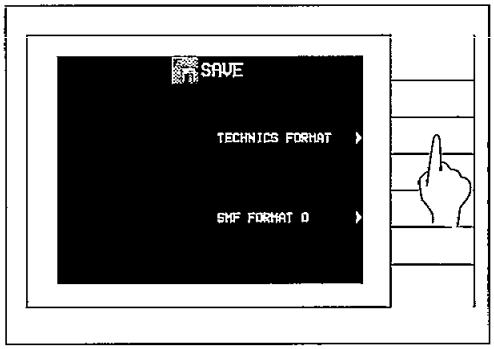
2 On the DISK MENU display, select SAVE.



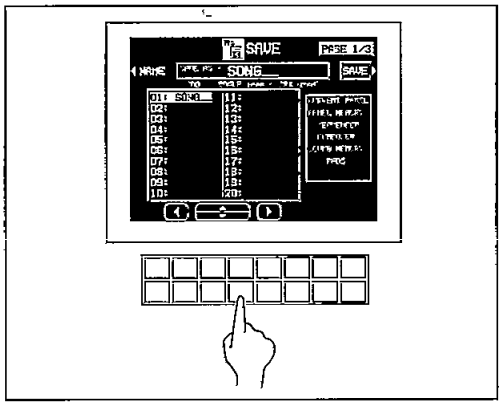
(KN1600)

- If you attempt to use the SAVE procedure when an unformatted disk is inserted into the Disk Drive slot, the FORMAT display appears. Follow the instructions on the display to format the disk. (Formatting the disk will clear any data which is currently stored on the disk.)

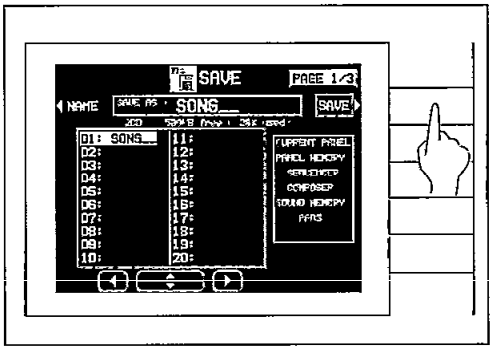
3 Select TECHNICS FORMAT.



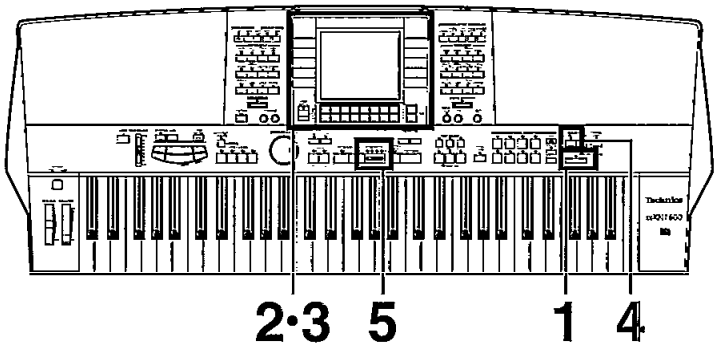
4 Specify a file number to save to.



5 Press the SAVE button.

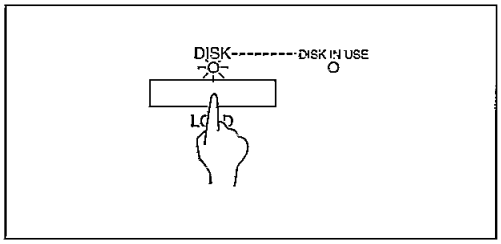


- The performance data of the song recorded in the **SEQUENCER** is saved on the floppy disk.

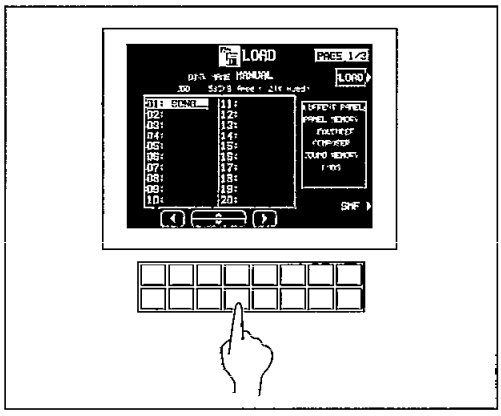


Recall data from a floppy disk

1 Press and hold the **DISK** button for a few seconds.



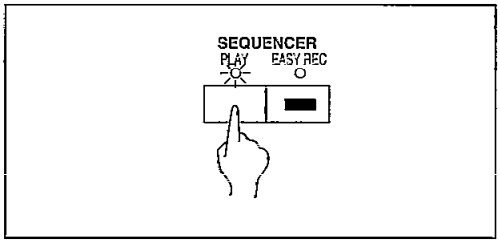
2 Select the file you wish to load.



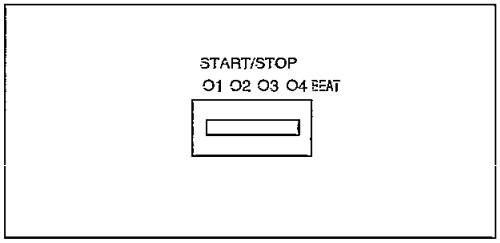
3 Press the LOAD button.

- The data is copied to the internal memory of this instrument.

4 Press the **PLAY** button in the **SEQUENCER** section to turn it on.



5 Press the **START/STOP** button.



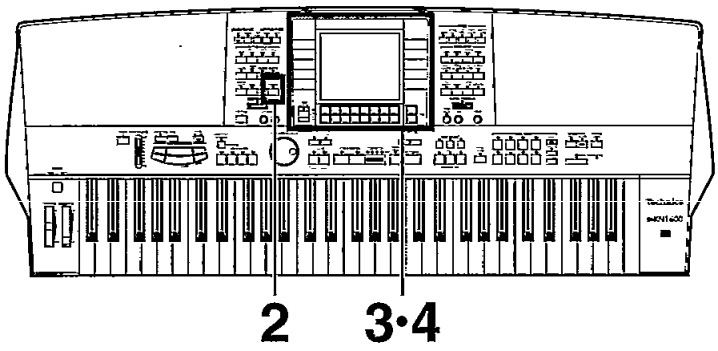
- The recalled song is played back.

■ **The following data can be saved/loaded:**

BACKUP	PERFORM-ANCE	CURRENT PANEL (The current panel settings)
		PANEL MEMORY
		SEQUENCER
		COMPOSER (MEMORY contents)
		SOUND MEMORY
		PADS (USER memories of the **PERFORMANCE PADS**)
		USER MIDI SETTINGS (USER memories of the MIDI PRESETS)

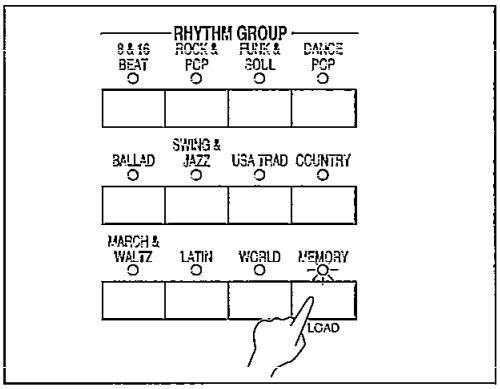
- For detailed information, refer to pages 115 and 180.

Load rhythm data from a Technics pattern disk (COMPOSER LOAD)

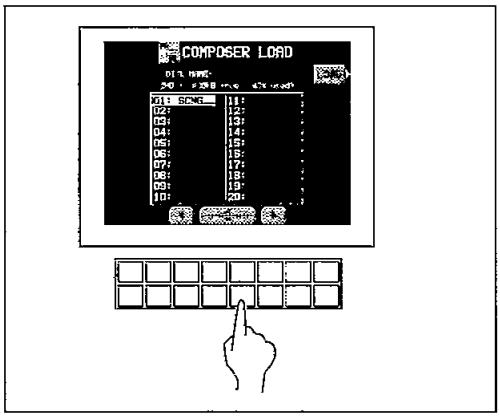


1 Insert a commercially sold Technics pattern disk into the Disk Drive slot.

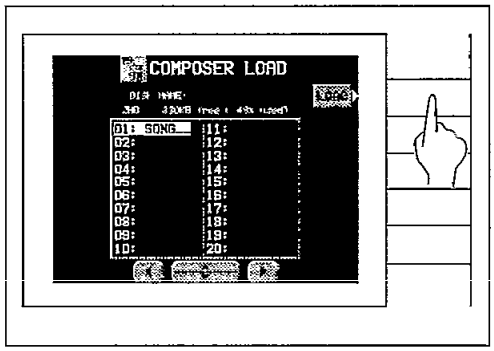
2 In the **RHYTHM GROUP** section, press and hold the **LOAD (MEMORY)** button for a few seconds.



3 Select the name of the pattern to load.



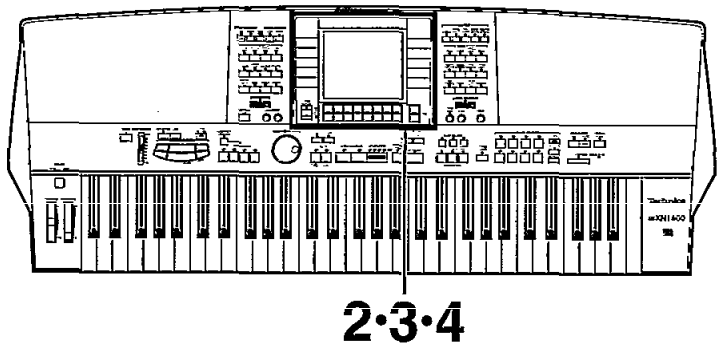
4 Press the LOAD button.



- Rhythm data is loaded to the **COMPOSER** memory (**MEMORY**). You can use the rhythms during your performance, just like the preset rhythms.

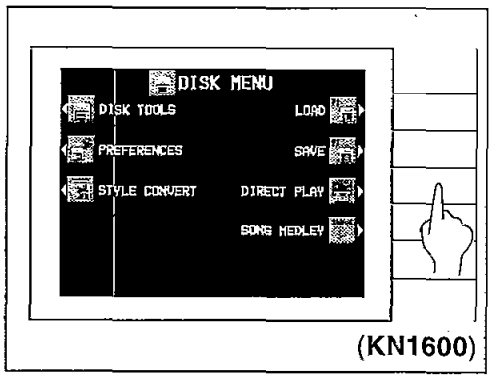
Play back commercial song disks

(DIRECT PLAY)

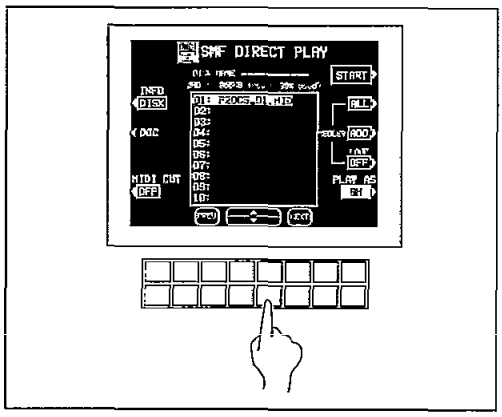


1 Insert the song disk into the Disk Drive slot.

2 On the DISK MENU display, select DIRECT PLAY.



3 Use the ▲ and ▼ buttons to select a song.



- For SMF songs, use the PLAY AS button to specify a sound arrangement mode (TECH/GM).

4 Press the START button.
- *The selected song is played back.*

- DIRECT PLAY is possible from the following disks:

Standard MIDI File FORMAT 0
TUNE 1000 "Standard MIDI File with Lyrics" (Format 0 only)
DISK ORCHESTRA COLLECTION™ (DOC)
PianoDisc™

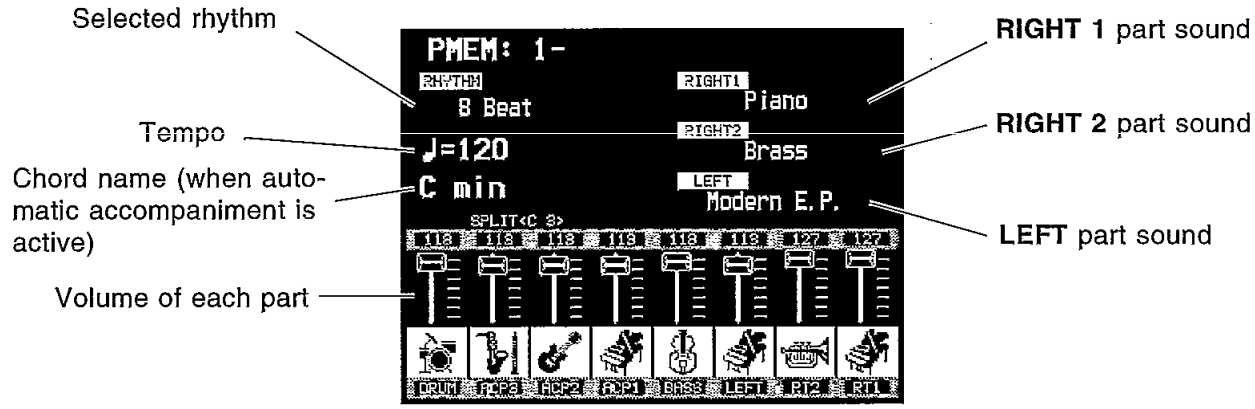
* All product and company names are trademarks or registered trademarks of their respective owners.
* DISK ORCHESTRA COLLECTION is a trademark of the YAMAHA Corporation.

About the display

A large-size display, easy to operate with excellent readability, is used for displaying various information such as the names of the selected sounds and rhythms etc. and when setting the functions. Let's take a look.

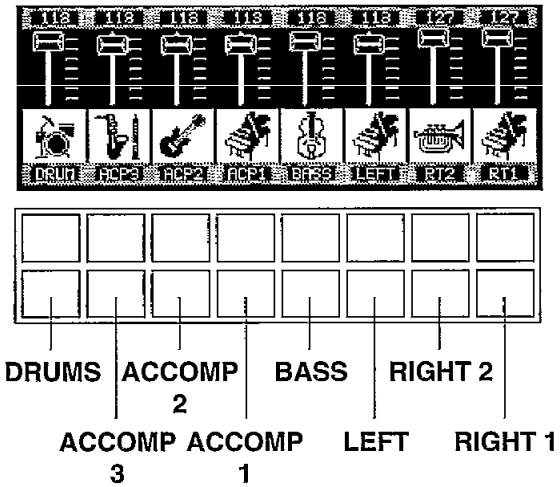
Normal display

This is the kind of information you see on the display during a normal performance.



Volume balance

At the bottom half of the normal display, the volume balance of each part is represented in a fader illustration and by a number (0 to 127). You can use the balance buttons below the display to adjust the volumes.



When setting the volume balance, press the upper button to increase the volume and the lower button to decrease it.

- Hold a button down to scroll the volume quickly.

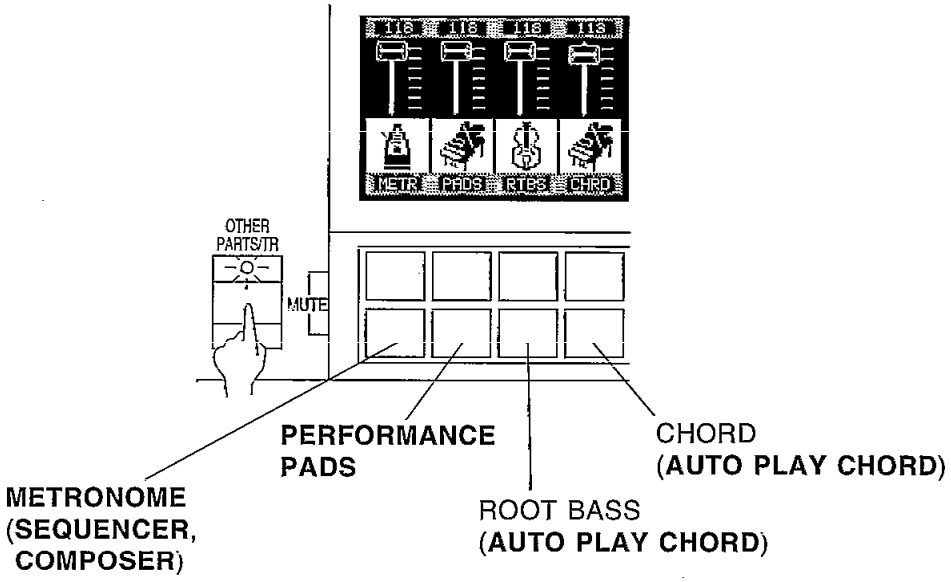
■ **MUTE**

To mute a part, press both the corresponding upper and lower buttons at the same time.

- The volume display for a muted part is shown as "MUTE".
- Pressing either balance button for a muted part will cancel the mute function.

■ OTHER PARTS/TR

If you press the **OTHER PARTS/TR** button, the display changes to show the volumes of these parts. You can then adjust the volumes of these parts.

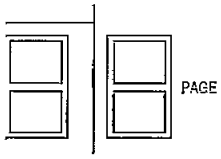


Use this button to access the RIGHT (RT) 1–PART (PT) 8 and PART 9–16 volume displays. These parts are active when playing back a song disk or when this instrument is connected to external MIDI equipment and is used as a multi-timbre sound generator.

- When there are other parts or tracks to access, the **OTHER PARTS/TR** indicator is lit.

PAGE

When there are additional parts to the current display, a page number indication, for example PAGE1/2 or P1/2, appears in the upper right corner of the screen. For example, 1/2 indicates that there are two pages of the display, and the current page is page 1. In this case, you can use the upper and lower **PAGE** buttons, to the right of the balance buttons, to view different "pages" of the display.

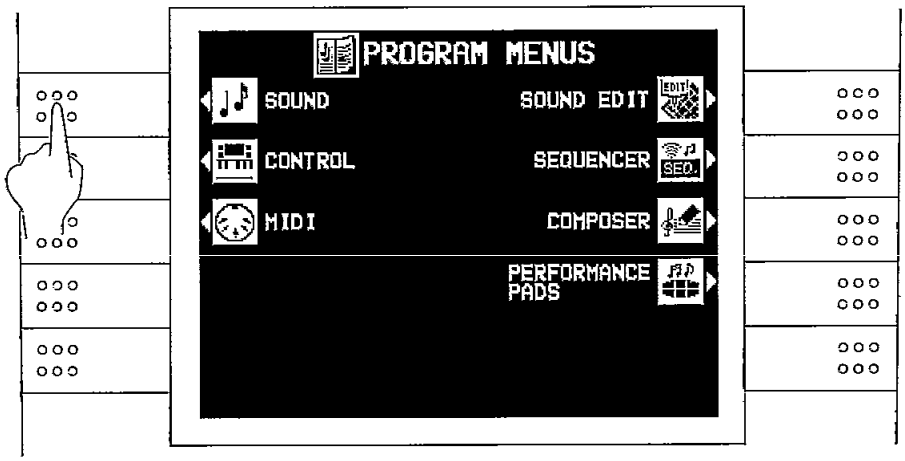


- Press the upper button to view the next page of the display, and the lower button to view the previous page of the display.
- On the last page of the display, pressing the upper button returns to the first page. And conversely, on the first page of the display, pressing the lower button will skip to the last page.

Menu display

The **PROGRAM MENUS** button controls multiple functions. Press the button to access its menu display.

■ **Example of menu display: PROGRAM MENUS**
Select a function from the menu display by pressing the corresponding button to the left or right of the display indicated by the ◀ and ▶ arrows.

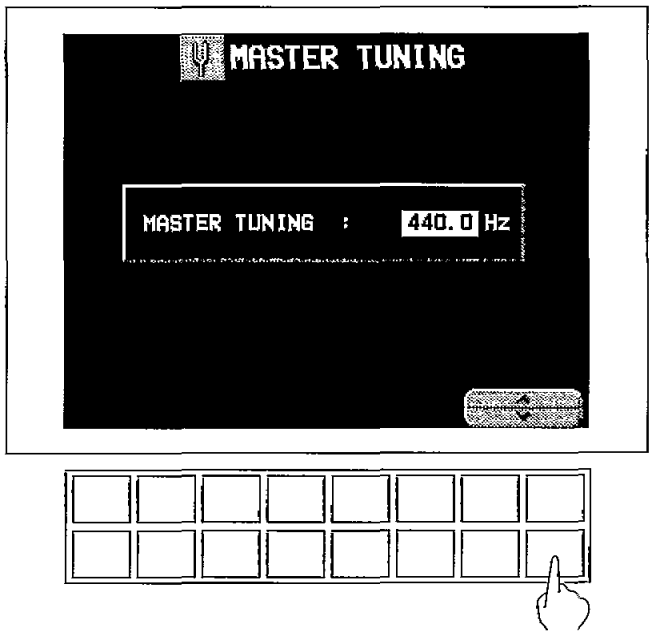


- In this manual, the steps describing how to select a function from a menu display are generally abbreviated as follows, for example: "On the PROGRAM MENUS display, select SOUND."

Setting display

When you select an item from the menu display, the setting display for the item is shown.
The buttons to the right, left and/or directly below the display are used to select and adjust the settings.

■ **Example of setting display: MASTER TUNING**

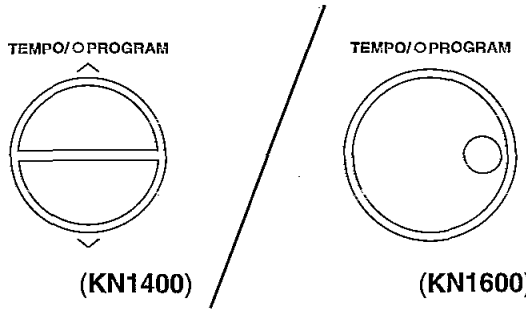


Press the button corresponding to the ∧ or ∨ button on the display to change the value.

- In this manual, this procedure is written as follows: "Use the ∧ and ∨ buttons to adjust the pitch."

TEMPO/PROGRAM

If the **TEMPO/PROGRAM** indicator is lit while you are using the display to adjust the setting, it indicates that this button (**KN1400**) or dial (**KN1600**) can be used to quickly change the displayed value or setting.

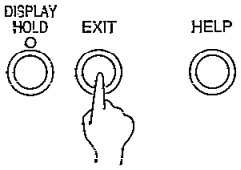


(KN1400) (KN1600)

- The setting which can be adjusted is highlighted on the display.

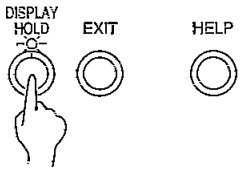
EXIT

While the setting display is shown, press this button to go back to the previous display.



DISPLAY HOLD

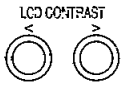
Press this button to turn it on when you wish to maintain the current display. You can keep a display which is normally automatically canceled, for example, or even during a performance, you can monitor information which is not shown on the normal display.



- The indicator for this button may flash if the current display is one which is normally automatically canceled.
- If the **PROGRAM MENUS** button, for example, is pressed, the **DISPLAY HOLD** mode is canceled.

CONTRAST

Use the **LCD CONTRAST** buttons to adjust the readability of the display.

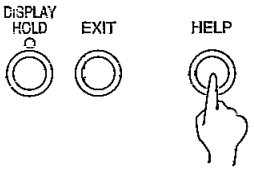


- During setting, the value for the setting is shown on the display (1–100).
- After pressing either button, you can use the **TEMPO/PROGRAM** button to adjust the setting.
- If the two buttons are pressed at the same time, the setting returns to the standard value.
- The new setting is memorized and remains active until you change it again.

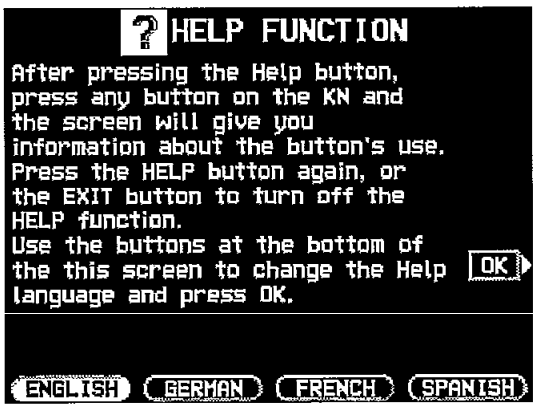
HELP

You can find an explanation of each button's function on the display.

1. While the normal performance display is shown, press the **HELP** button.



- The following display appears.


HELP FUNCTION
After pressing the Help button, press any button on the KN and the screen will give you information about the button's use. Press the HELP button again, or the EXIT button to turn off the HELP function.
Use the buttons at the bottom of the this screen to change the Help language and press OK.
OK
ENGLISH
GERMAN
FRENCH
SPANISH

2. Use the buttons below the display to select a language.

3. Press the OK button.

4. Press a button on the panel whose explanation you wish to read.
- An explanation of the button's function is shown on the display.

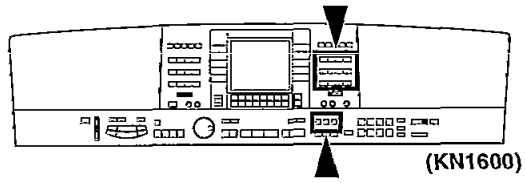
5. Press the **HELP** button again to exit the help mode.

- Attention display messages and error messages are also shown in the selected language.

- The appearance of the display on your instrument may be different from the illustrated display in this manual depending on the region in which your instrument was purchased and the selected display language.

Part I Sounds and effects

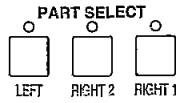
Selecting sounds


(KN1600)

Select the sounds for the three parts you can play on the keyboard—**RIGHT 1**, **RIGHT 2** and **LEFT**. After first selecting a part and a **SOUND GROUP**, choose the desired sound from the display.

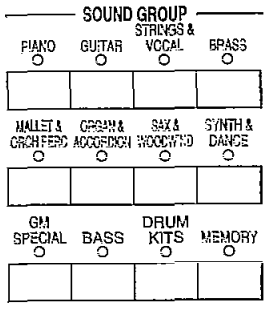
Select a sound

1. In the **PART SELECT** section, choose **RIGHT 1**, **RIGHT 2** or **LEFT**.



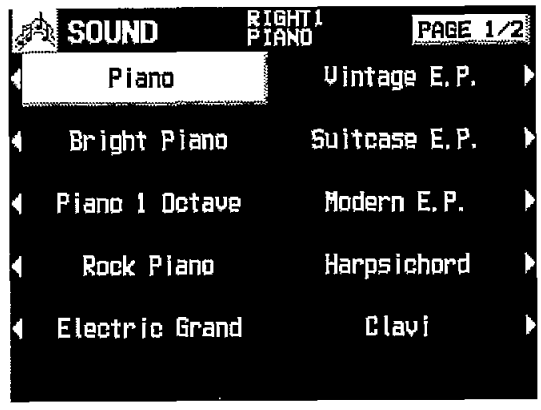
- The **CONDUCTOR** buttons are used to specify which part is heard. (Refer to page 38.)
- For the **RIGHT 1** and **RIGHT 2** parts, when a **CONDUCTOR** button is selected, the corresponding **PART SELECT** button is also activated.

2. In the **SOUND GROUP** section, select a sound group.



- The sounds in **GM SPECIAL** are GENERAL MIDI sounds that are not included in other groups.
- The sounds in **DRUM KITS** are percussion sounds that you play by striking the keyboard keys.
- **MEMORY** is reserved for storing sounds you modify. (Refer to page 110.)

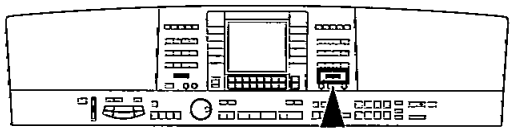
3. Select the desired sound from the list on the display.



- A list of sounds available for each sound group can be found in the separate REFERENCE GUIDE provided.
- You can use the **PAGE** buttons to view a different part of the list.
- The sound you select is memorized for the part you selected in step 1.
- The display returns to the previous display after a few seconds. When you wish to maintain the current display, press the **DISPLAY HOLD** button to turn it on.

4. Play the keyboard.
- This instrument features INITIAL TOUCH (the volume, for example, changes depending on how hard the keyboard is played).

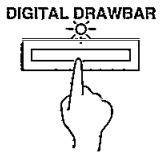
Digital Drawbar (KN1600)



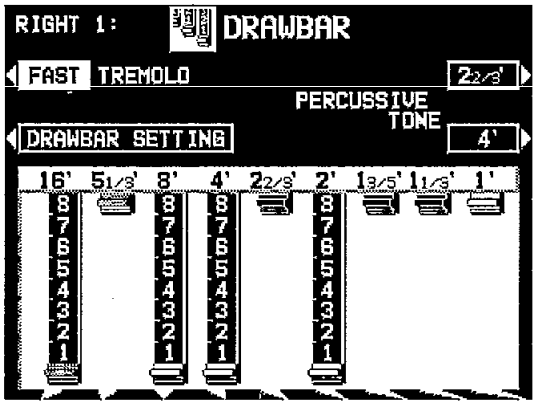
You can play organ sounds while controlling the drawbars on the display.

1. In the **PART SELECT** section, select a part.

2. Press the **DIGITAL DRAWBAR** button to turn it on.



- The display looks similar to the following.



3. Use the balance buttons below the display to adjust the volume of each drawbar.

- The volume of each drawbar is illustrated on the display and changes when you press the corresponding balance buttons to adjust the volume. The 1' setting is adjusted with the **PAGE** buttons.
- The **DIGITAL DRAWBAR** can be selected only for the **RIGHT 1**, **RIGHT 2** and **LEFT** parts. It can not be selected for other parts, such as the **ACCOMP 1, 2, 3** and **BASS** parts of the **COMPOSER, PERFORMANCE PADS,** or PART 4 to 16 of the **SEQUENCER.**

■ PERCUSSIVE TONE

PERCUSSIVE TONE adds a tone with a fast initial attack to the drawbar sounds. You can select two pitch levels of attack tones.

Use the PERCUSSIVE TONE 2 2/3' and 4' buttons to turn the respective tone on or off.

- A tone is on when the respective indication is highlighted.

■ TREMOLO

Tremolo is a rapid oscillation in volume, like the effect of a rotating speaker. The tremolo speed can be changed while you are playing.

- The **DSP EFFECT** (ROTARY SPEAKER/ ROCK ROTARY) is used for the tremolo effect. This effect does not work if the **DSP EFFECT** button is turned off.

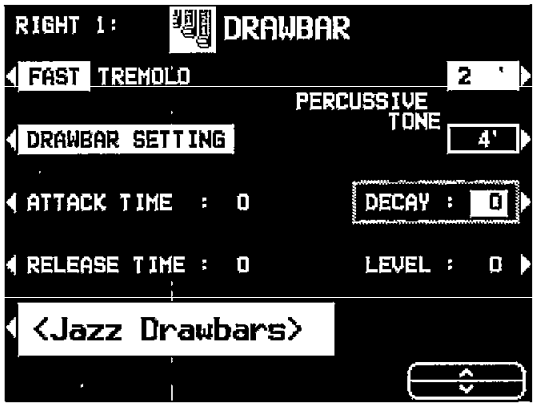
Use the TREMOLO button to switch between the SLOW and FAST rotating speeds.

- The TREMOLO setting is effective for the **RIGHT 1**, **RIGHT 2** and **LEFT** parts in common.

■ DRAWBAR SETTING

The drawbar sounds can be adjusted more precisely.

1. Press the DRAWBAR SETTING button.
- The display looks similar to the following.



2. Use the Jazz Drawbars/Rock Drawbars button to select the type of sound.
- The types of **DSP EFFECT** used with the TREMOLO effect are as follows:
  Jazz Drawbars: ROTARY SPEAKER
  Rock Drawbars: ROCK ROTARY
- In case different types are selected for multiple parts, the **DSP EFFECT** for the sound type which was selected last is active.

3. Select the item. Use the ∧ and ∨ buttons to change the setting (–5 to +5).

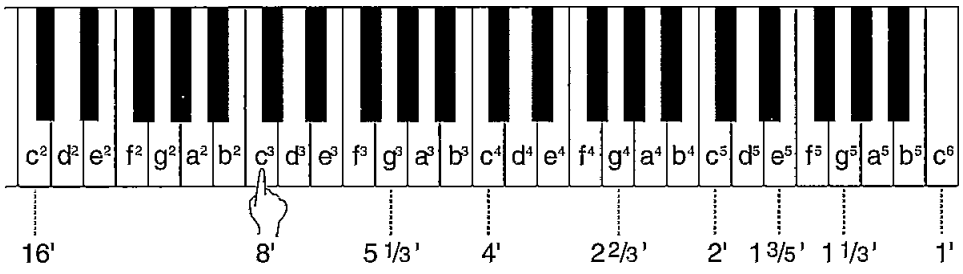
ATTACK TIME:
Adjust the time it takes for the drawbar sound to sound after a key is played.
RELEASE TIME:
Adjust the time it takes for the drawbar sound to die out after the keys are released.
DECAY:
Adjust the time it takes for the percussive tone to die out.
LEVEL:
Adjust the volume of the percussive tone.

- The above settings are effective for the **RIGHT 1, RIGHT 2** and **LEFT** parts in common.

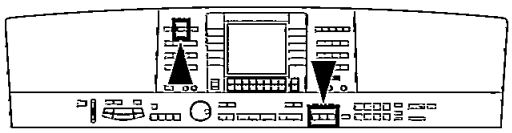
About foot marks

The foot indication (for example 8') refers to the pitch of a rank of pipes in a pipe organ. If 8' is used as the standard (the pitch as played on the keyboard), a 16' rank pitch will be one octave below the 8' rank pitch, and a 4' rank pitch one octave above.

When the C^3 key is pressed, the sounds of the different pitch ranks are as follows.

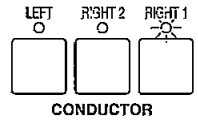
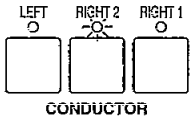
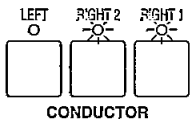
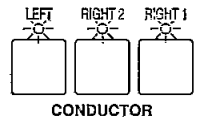
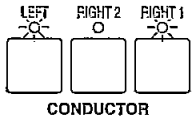
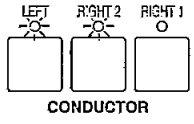


Assigning parts to the keyboard



The **CONDUCTOR** buttons are used to assign the parts (**RIGHT 1**, **RIGHT 2**, **LEFT**) to the keyboard in many different ways. For example, you can split the keyboard into right and left sections (**SPLIT**), and assign a different sound to each section.

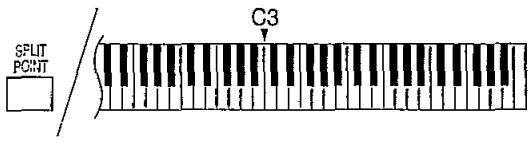
CONDUCTOR

CONDUCTOR settings	How sounds are assigned to the keyboard
	All keys produce the **RIGHT 1** sound. **RIGHT 1**
	All keys produce the **RIGHT 2** sound. **RIGHT 2**
	All keys produce both the **RIGHT 1** sound and the **RIGHT 2** sound. **RIGHT 1 + RIGHT 2**
	The left keys produce the **LEFT** sound and the right keys produce the **RIGHT 1** sound and the **RIGHT 2** sound. **LEFT** | **RIGHT 1 + RIGHT 2**
	The left keys produce the **LEFT** sound and the right keys produce the **RIGHT 1** sound. **LEFT** | **RIGHT 1**
	The left keys produce the **LEFT** sound and the right keys produce the **RIGHT 2** sound. **LEFT** | **RIGHT 2**

- The volume for each part can be adjusted independently. (Refer to page 30.)
- The following conditions are in effect when the **AUTO PLAY CHORD** is used.
  - —ONE FINGER mode: The sounds assigned to the **LEFT** part are not produced when the left section of the keyboard is played.
  - —ONE FINGER, FINGERED mode: You cannot assign sounds to all the keys.
  - —PIANIST mode: The keyboard cannot be split.

SPLIT POINT

When the keyboard is divided into left and right sections, the split point is normally at C3 (indicated by ▼).

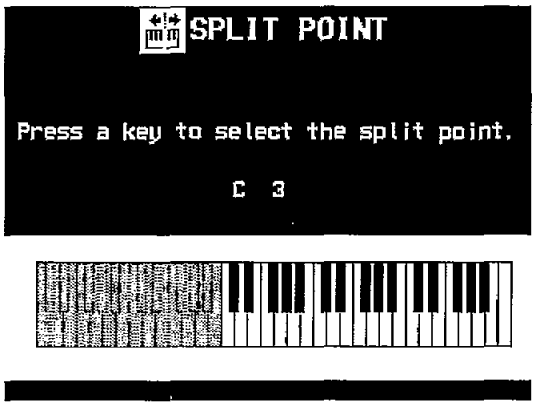


■ Customized split point

You can set a different split point.

1. Press the **SPLIT POINT** button.

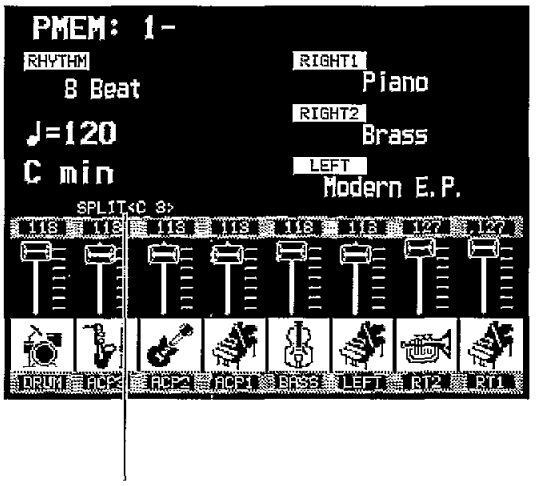
- The following display appears.



2. Press a key on the keyboard to specify the desired split point.

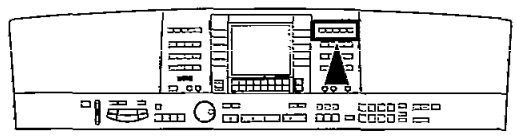
- A split point is set at the location of the pressed key, and is indicated on the keyboard illustration on the display.
- The key at the split point is the lowest note of the right keyboard section.
- After a few seconds, the display exits the setting mode.

- The split point is indicated on the display.



Split point

Effects



You can achieve even fuller and stirring sounds by adding various effects.

SUSTAIN

SUSTAIN is the gradual fading out of musical tones after the key is released.

1. In the **CONDUCTOR** or **PART SELECT** section, turn on the part to which this effect will be applied.

2. Press the **SUSTAIN** button to turn it on.

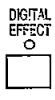
- The **SUSTAIN** can be set to on or off for each part.
- This effect does not work for the sounds in the **DRUM KITS** sound group.
- *This effect may not work for some sounds.*
- In the initialized state, the sustain can be turned on and off with the optional Foot Switch (sold separately).

DIGITAL EFFECT

DIGITAL EFFECT gives the sound richness and enhances your performance.

1. In the **CONDUCTOR** or **PART SELECT** section, turn on the part to which this effect will be applied.

2. Press the **DIGITAL EFFECT** button to turn it on.



- The on or off status of the **DIGITAL EFFECT** is preset for each sound.
- This effect does not work for the sounds in the **DIGITAL DRAWBAR (KN1600)** and **DRUM KITS** sound groups.
- This effect may not work for some sounds.

DSP EFFECT

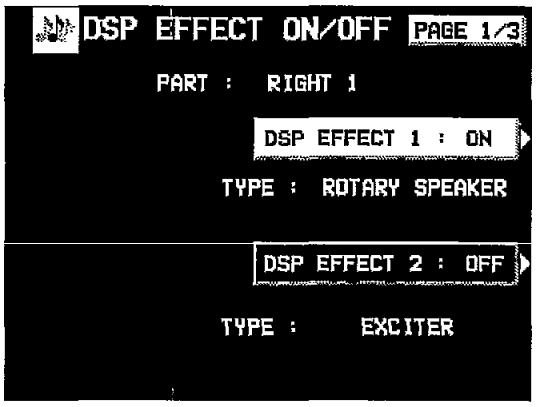
The **DSP EFFECT** works like a studio effects processor, providing effects such as CHORUS, PHASER, DELAY and DISTORTION.

- You can use two different **DSP EFFECT**'s.

1. In the **CONDUCTOR** or **PART SELECT** section, turn on the part to which this effect will be applied.

2. Press the **DSP EFFECT** button to turn it on.

- The display changes to the following.



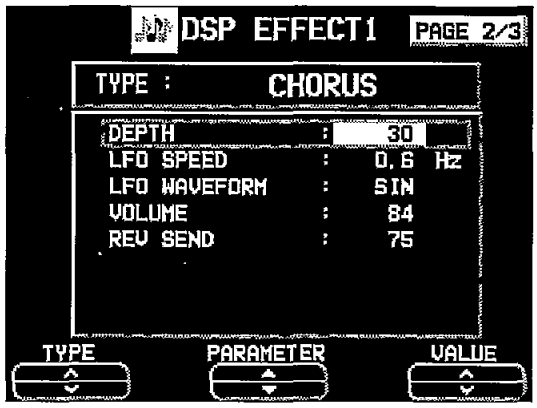
3. Select ON or OFF for DSP EFFECT 1 and DSP EFFECT 2 with the respective buttons.

- The on/off status of the **DSP EFFECT** button determines the on/off status of the total **DSP EFFECT**. When the **DSP EFFECT** button is on, the respective DSP EFFECT 1 and 2 ON/OFF settings for the various parts are in force.
- DSP EFFECT 1 and 2 are set in parallel. It is recommended that only one DSP EFFECT be set to ON for a part.
- The display returns to the previous display after a few seconds.
- DSP EFFECT 1: the depth of the effect can be set for each part. (Refer to page 133.)
- DSP EFFECT 2: the ON/OFF status of the effect can be set for each part. (Refer to page 133.)
- **KN1600**: When the **DIGITAL DRAWBAR** is on, this button is used to specify the tremolo effect type (ROTARY SPEAKER/ROCK ROTARY).

■ Type and parameter settings

1. Press and hold the **DSP EFFECT** button for a few seconds.

- The display changes to the following.
- You can also press the upper **PAGE** button on the DSP EFFECT ON/OFF display to access this screen.



- PAGE 2/3 is the setting display for DSP EFFECT 1, and PAGE 3/3 for DSP EFFECT 2.

2. Use the TYPE ∧ and ∨ buttons to select the type of effect.

- Details about the parameters or each type can be found in the separate REFERENCE GUIDE provided.
- The types that can be selected for DSP EFFECT 2 are limited.

3. Use the PARAMETER ▲ and ▼ buttons to select the parameter.

4. Use the VALUE ∧ and ∨ buttons to adjust the setting.

5. Repeat steps 3 and 4 for each parameter as necessary.

- When a type of effect is selected, the parameters automatically revert to the factory defaults.
- If you set very high or very low settings for PARAMETRIC EQ (equalizer) type effects, the sound may be distorted. In this case, adjust the Q or G setting, or lower the **MAIN VOLUME** setting.
- The display reruns to the previous display after a few seconds.
- This display can also be accessed from the SOUND MENU display. (Refer to page 131.)

DIGITAL REVERB

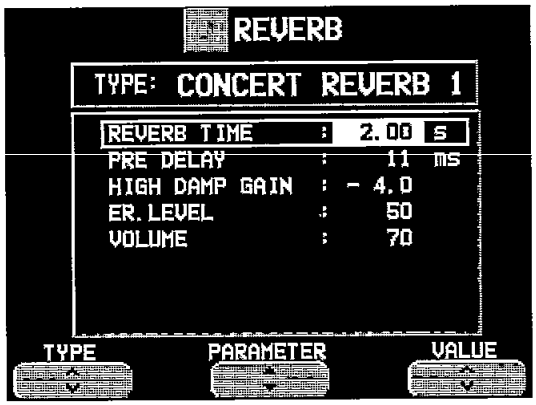
DIGITAL REVERB applies a reverberation effect to the sound.

Press the **DIGITAL REVERB** button to turn it on.

- This effect is applied to all the sounds of the keyboard.
- The depth of the effect can be set for each part. (Refer to page 133.)

■ Type and parameter settings

1. Press and hold the **DIGITAL REVERB** button for a few seconds.
- The display changes to the following.



2. Use the TYPE ∧ and ∨ buttons to select the type.
- Details about each type and its parameters can be found in the separate "REFERENCE GUIDE" provided.

3. Use the PARAMETER ▲ and ▼ buttons to select the parameter to adjust.

4. Use the VALUE ∧ and ∨ buttons to change the setting.

5. Repeat steps 3 and 4 for the other parameters, as desired.
- When a type of effect is selected, the parameters automatically revert to the factory defaults.
- The display reruns to the previous display after a few seconds.
- This display can also be accessed from the SOUND MENU display. (Refer to page 131.)

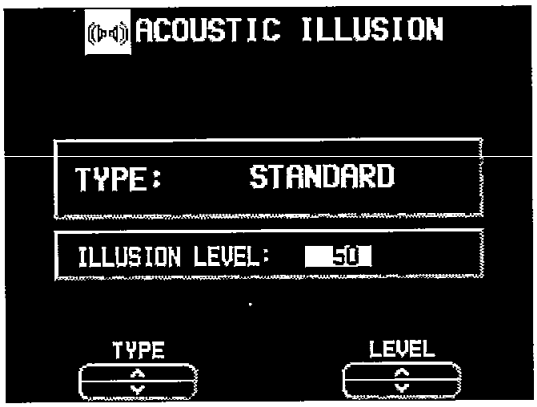
ACOUSTIC ILLUSION

The **ACOUSTIC ILLUSION** effect makes your one instrument sound like many instruments, each with a slightly different sound, with various simulated arrangements. When used with the sound of strings, for example, this effect makes your instrument sound like a whole orchestra.

Press the **ACOUSTIC ILLUSION** button to turn it on.

■ Type and level settings

1. Press and hold the **ACOUSTIC ILLUSION** button for a few seconds.
- The display looks similar to the following.



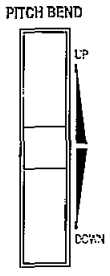
2. Use the TYPE ∧ and ∨ buttons to select the type.
- Select from STANDARD, PERCUSSIVE, SYMPHONIC and DEEP SPACE.

3. Use the LEVEL ∧ and ∨ buttons to select the level (1 to 99).

- The display reruns to the previous display after a few seconds.
- This display can also be accessed from the SOUND MENU display. (Refer to page 131.)

PITCH BEND

The pitch of the instrument can be continuously changed with the **PITCH BEND** wheel at the left end of the keyboard. Using this control, you can produce the effect of bending the strings on a guitar.
While pressing a key on the keyboard, move the wheel up and down to control the pitch.

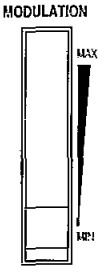


- When you release your hand from the wheel, it returns automatically to the center position and the pitch bend effect is turned off.
- The pitch bend effect does not function for the **AUTO PLAY CHORD** accompaniment pattern or during a normal performance for the sounds of the **LEFT** part.
- The amount of pitch bend can be set. (Refer to page 135.)

MODULATION (KN1600)

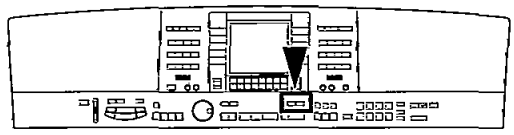
The **MODULATION** wheel is used to apply a vibrato effect, for example, to the sound.

While pressing a key on the keyboard, move the wheel up to add the effect.

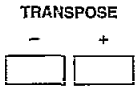


- When this effect is not needed, set the **MODULATION** wheel to the **MIN** position.
- This effect differs depending on the selected sound.
- The vibrato effect does not function for the **AUTO PLAY CHORD** accompaniment pattern or during a normal performance for the sounds of the **LEFT** part.

Transpose

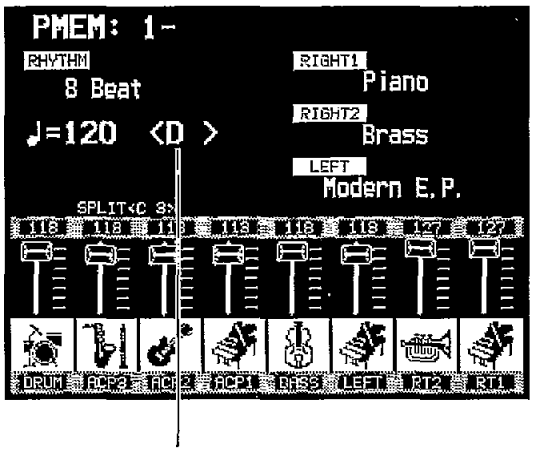


The **TRANSPOSE** buttons are used to change the key of the entire instrument in semi-tone steps across an entire octave.
Suppose you learn to play a song—in the key of C, for example—and decide you want to sing it, only to find that it's either too high or too low for your voice. Your choice is to either learn the song all over again in a different key, or to use the **TRANSPOSE** feature.



Adjust the key with the + and – buttons.

- Each press of the + button changes the key as follows: D♭ → D → E♭ → E → F → F♯. Each press of the – button changes the key as follows: B → B♭ → A → A♭ → G.
- If the two buttons are pressed at the same time, the key returns to C.
- When the **TRANSPOSE** function is active, the transposed key is shown on the display.



Actual key

<Example: transposed to D>

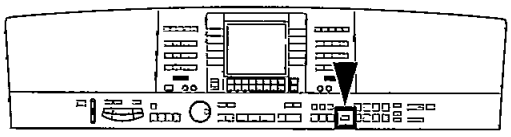
Played keys

C major

Notes that sound

D major

Techni-chord



TECHNI-CHORD turns your single note melodies into full chords and offers you a choice of different types from a simple duet which adds one harmony note to your melody note, to big band reeds which adds four harmony notes to your melody note. If **TECHNI-CHORD** is part of a **ONE TOUCH PLAY** or **MUSIC STYLIST** (**KN1600**) registration, a suitable **TECHNI-CHORD** type will be selected automatically.

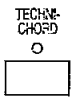
Example:

Left hand (chord)

Right hand (melody)

1. Split the keyboard into left and right sections.

2. Press the **TECHNI-CHORD** button to turn it on.



3. Play the keyboard.

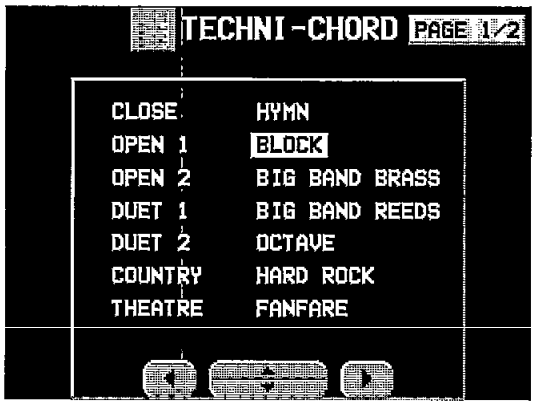
- The melody you play with your right hand is automatically played in chords which are based on the chords you play with your left hand.

- This feature is very effective when used with the **AUTO PLAY CHORD**.

Type setting

1. Press and hold the **TECHNI-CHORD** button for a few seconds.

- The display looks similar to the following.



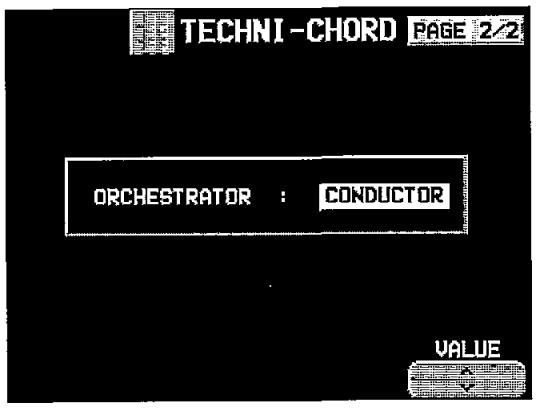
2. Use the ◀, ▲, ▼, ▶ buttons to select the harmony style.

- When the OCTAVE, HARD ROCK or FANFARE style is selected, the **TECHNI-CHORD** functions even when the keyboard is not split.
- For a detailed explanation of the different harmony styles, refer to the separate REFERENCE GUIDE provided.

■ ORCHESTRATOR

You can specify which part is used for the harmony tones. Your **TECHNI-CHORD** performance is enhanced by selecting harmony sounds different from the sounds you play and the sounds produced by the automatic accompaniment.

1. Use the **PAGE** buttons to access the PAGE 2/2 display.

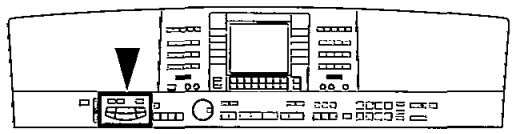


2. Use the ∧ and ∨ buttons to select the part for the harmony notes.

- LEFT and PART 16 cannot be selected.
- If CONDUCTOR is selected, the harmony notes are produced in the sounds of the part which is currently selected in the **CONDUCTOR** (**RIGHT 1**, **RIGHT 2**). In other words, the harmony notes are produced in the same sound as the melody notes. If both **RIGHT 1** and **RIGHT 2** are on, the harmony notes are produced in the sound of the **RIGHT 1** part.

Part II Performance Pads

Playing phrases



During your performance, you can insert a short recorded phrase or effect sounds by pressing a pad button. A different group of phrases is recorded in each bank.

1. Press the **BANK** button.

2. Select the desired bank from the display.

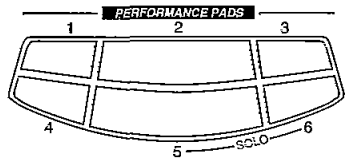
- The list of banks consists of two screen pages. Use the **PAGE** buttons to move from one screen page to another.

- "User Bank" 1, 2 and 3 are for storing your original phrases.
- "Compile Bank" 1 and 2 are for assigning phrases as you desire.

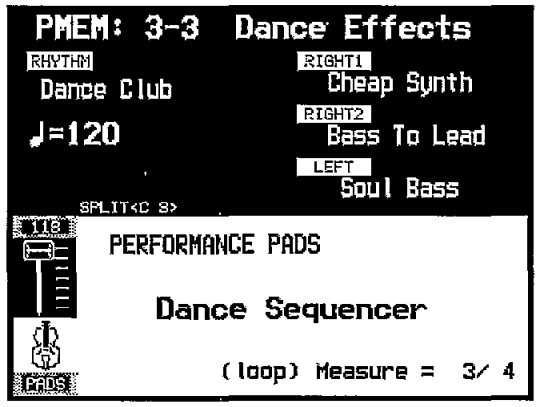
- Various functions are assigned to each pad button in "Control Preset".

  1: ROTARY SLOW/FAST
  2: PANEL MEMORY BANK INCREMENT
  3: GLIDE
  4: PANEL MEMORY DECREMENT
  5: PANEL MEMORY BANK DECREMENT
  6: PANEL MEMORY INCREMENT
- For more information about these functions, please see to page 162.
- When using the "Control Preset" bank, set the **AUTO SETTING** button to OFF. When using the **PANEL MEMORY**, turn off the PERFORM. PADS BANK of the EXPAND MODE FILTER.
- The display returns to the previous display after a few seconds.

3. Press a pad button (**1** to **6**).



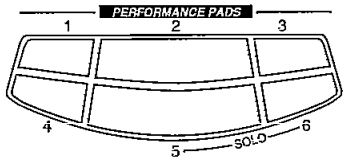
- A different phrase is assigned to each pad button.
- Information about the phrase, such as its name and the measure number, is shown in the lower section of the normal display.
- The volume can be adjusted with the leftmost buttons below the display.



- The selected phrase is played in the current tempo.
- To stop the phrase before it has ended, press the **STOP/RECORD** button.
- Some phrases continue to play until the **STOP/RECORD** button is pressed (the LOOP indication appears).
- During a rhythm performance, some phrases may play in time with the measure count.
- When the automatic accompaniment is on, the phrase is played in the specified chord.
- When GENERAL MIDI is ON, the **PERFORMANCE PADS** do not sound. (Refer to page 175.)

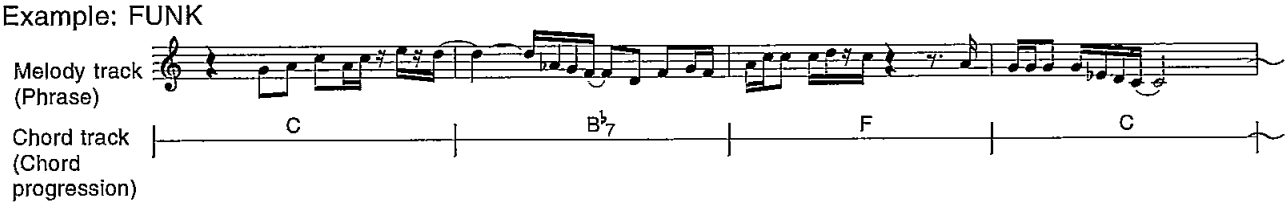
SOLO

Pad buttons **5** and **6** (**SOLO**) are phrases with chord progressions. Just by pressing one of these pad buttons, the phrase changes following a chord progression that is typical for the music genre of that bank. (Refer to the example below.)



- Use with the automatic accompaniment (page 57) during your performance.
- Pad button **5** accesses a major chord progression, and pad button **6** a minor chord progression.
- A table showing the chord progression for each bank can be found in the separate REFERENCE GUIDE provided.

Example: FUNK



AUTO SETTING

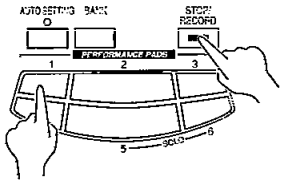
When this button is set to on, the bank automatically changes according to the automatic setting functions in the **ONE TOUCH PLAY**, the **MUSIC STYLE ARRANGER** and the **MUSIC STYLIST** (**KN1600**). When it is set to off, the bank does not automatically change according to these functions.

Record a phrase

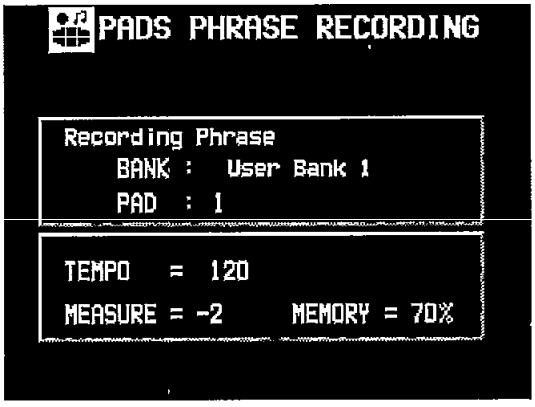
"User Bank" 1, 2 and 3 are reserved for storing your original phrases.
- You can also copy phrases which are recorded in the **SEQUENCER**. (Refer to page 72.)

1. Press the **BANK** button; on the BANK SELECT display, select "User Bank 1", "User Bank 2" or "User Bank 3".

2. While pressing the **STOP/RECORD** button, press the pad button in which you wish to record.



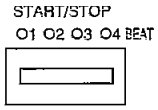
- Pad buttons **5** and **6** (**SOLO**) cannot be selected for recording phrases. To create phrases with your original chord progression, copy the data from the **SEQUENCER**. (Refer to page 51.)
- The display looks similar to the following.



3. Use the **TEMPO/PROGRAM** to adjust the recording tempo.
- The tempo is shown on the display as TEMPO=.

4. Select the sounds and effects for the phrase you are going to record.

5. Press the **START/STOP** button.



- After a two-measure count (MEASURE= –2, –1), recording begins.

6. Record the phrase.

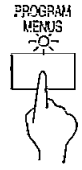
7. When you have finished recording the phrase, press the **START/STOP** button.
- You can also stop recording by pressing the **STOP/RECORD** button.

8. Repeat steps 3 to 7 to record phrases in the other pad buttons as desired.
- The following information is stored.
  —Your keyboard performance
  —Sound settings and changes
  —**SUSTAIN** on/off setting
  —Operation of the **PITCH BEND** and **MODULATION** (**KN1600**) wheels, etc.
- The memory capacity of all the **PERFORMANCE PADS** user banks is approximately 3500 notes. The remaining memory available for recording is shown on the display as a percentage (MEMORY= %). When "Memory full!" appears on the display, no more data can be stored.
- You can assign a name to each bank and phrase. (Refer to page 53.)

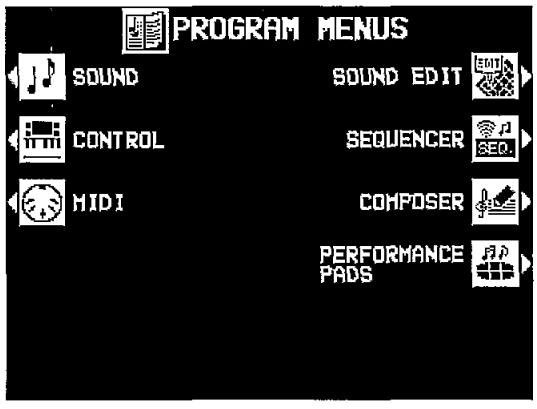
USER SETTING

These are settings related to how the recorded phrase sounds.

1. Press the **PROGRAM MENUS** button to turn it on.

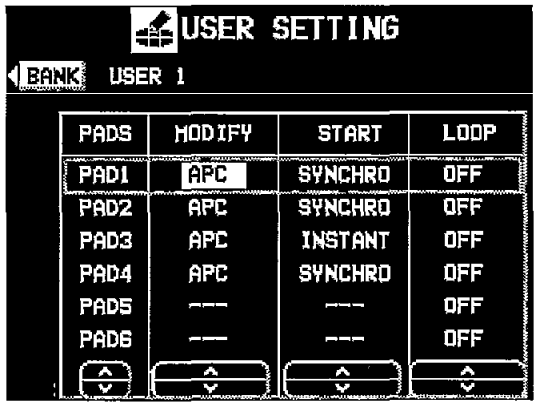


- The display looks similar to the following.



2. Select PERFORMANCE PADS.
- The display changes to the PADS MENU display.

3. Select USER SETTING.
- The display looks similar to the following.



4. Use the BANK button to select a bank (USER 1, USER 2 or USER 3).

5. Use the PADS ∧ and ∨ buttons to select a pad.

6. Use the MODIFY ∧ and ∨ buttons to select the mode for the chord conversion.

APC:
When the automatic accompaniment is on, the chord conversion is active.
FREE:
When the automatic accompaniment is on, the chord conversion is not active.

7. Use the START ∧ and ∨ buttons to select a performance mode.

SYNCHRO:
During a rhythm performance, the phrase starts in sync with the start of a measure.
INSTANT:
During a rhythm performance, the phrase starts immediately when a pad button is pressed, regardless of the current timing in the measure.

8. Use the LOOP ∧ and ∨ buttons to select the repeat mode.

ON:
The phrase is played repeatedly.
OFF:
The phrase is played only once.

9. Repeat steps 5 to 8 for each pad button, as desired.

10. When you have finished setting the functions, press the **PROGRAM MENUS** button to turn it off.

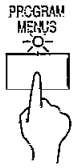
Copying phrases

You can copy the desired data, as phrases, from the **SEQUENCER** to each pad memory of a "User Bank".

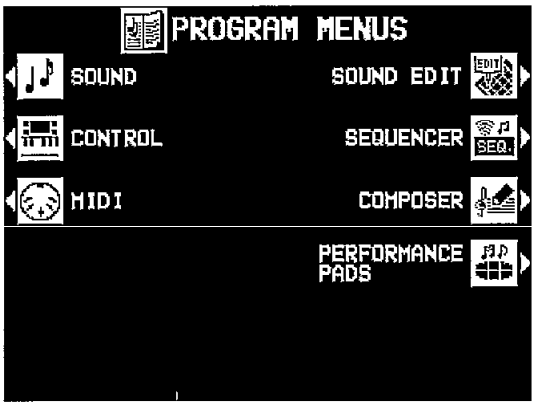
- Chord data also can be copied to pad buttons **5** and **6** (**SOLO**).

1. Record a phrase in the **SEQUENCER**, or load data from a disk.
- After this procedure, please do not change the song number.
- For details about **SEQUENCER** operation, refer to page 72.
- For information about loading data, refer to page 118.

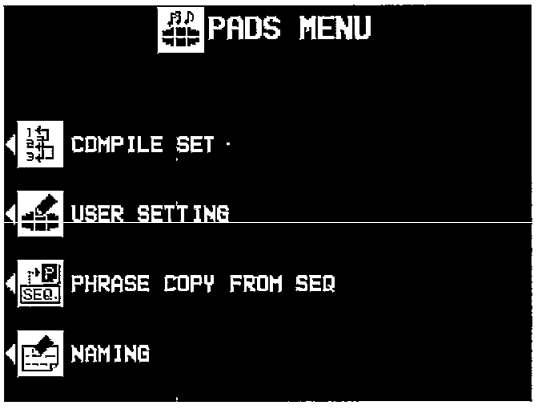
2. Press the **PROGRAM MENUS** button to turn it on.



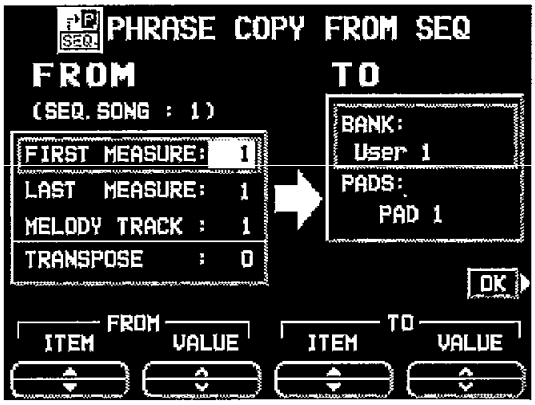
- The display looks similar to the following.



3. Select PERFORMANCE PADS.
- The display looks similar to the following.



4. Select PHRASE COPY FROM SEQ.
- The display looks similar to the following.



5. Select the measures of **SEQUENCER** data you wish to copy from.
- On the FROM side, use the ITEM ▲ and ▼ buttons to select the item. Use the VALUE ∧ and ∨ buttons to specify the setting.

FIRST MEASURE:
The first measure of the phrase you wish to copy.
LAST MEASURE:
The last measure of the phrase you wish to copy.
MELODY TRACK:
The track number of the recorded melody.
TRANSPOSE:
The setting to transpose the chords when they are copied.

- The maximum that can be copied is 16 measures.
- When copying to pad button **5** or **6**, the chord track is automatically displayed, and the chord data is also copied. However, when chord data from step record input does not exist, the measures are blank.
- If you wish to convert the chords during playback, set TRANSPOSE to the key of C and then copy the phrase.

6. Select the pad button you wish to copy to.
- On the TO side, use the ITEM ▲ and ▼ buttons to select the item. Use the VALUE ∧ and ∨ buttons to adjust the setting.

BANK:
The name of the bank (USER 1, USER 2 or USER 3).

PADS:
Pad button number (**1** to **6**).

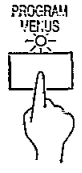
7. Press the OK button.
- A confirmation display appears. Press the YES button if you wish to copy the phrase, or press the NO button to cancel the procedure.

8. When you have completed the procedure, press the **PROGRAM MENUS** button to turn it off.

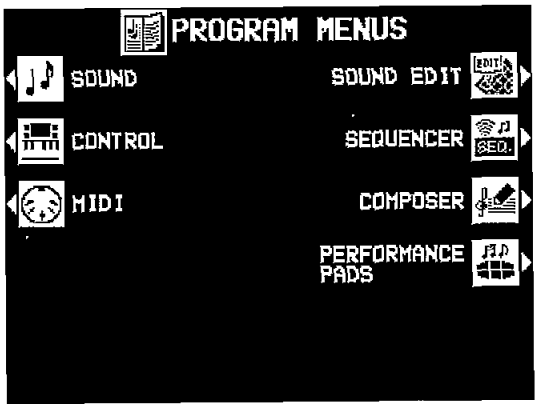
Compile

You can assign desired phrases from different banks in "Compile Bank" 1 and 2.

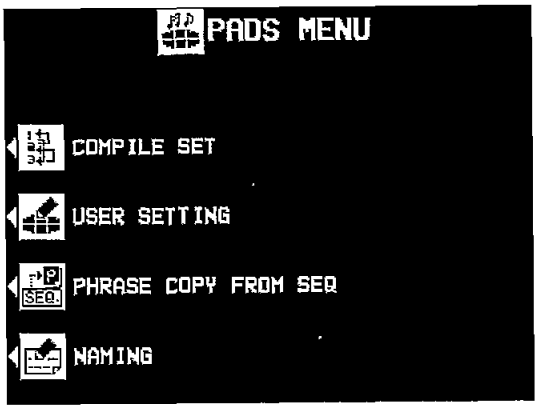
1. Press the **PROGRAM MENUS** button to turn it on.



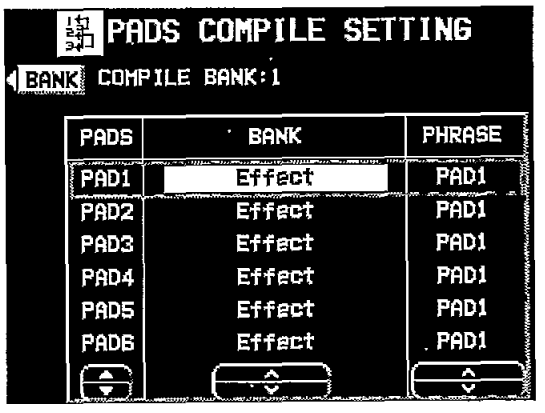
- The display looks similar to the following.



2. Select PERFORMANCE PADS.
- The display looks similar to the following.



3. Select "COMPILE SET".
- The display looks similar to the following.



4. Press the BANK button to select a bank (COMPILE BANK: 1/2).

5. Use the PADS ▲ and ▼ buttons to select the pad to which to assign the phrase.

6. Use the BANK and PHRASE ∧ and ∨ buttons to select the desired bank and phrase you wish to assign.
- The "Control" bank cannot be selected.

7. Repeat steps 5 and 6 to assign phrases to the other pad buttons.

8. When you have finished assigning the phrases, turn off the **PROGRAM MENUS** button.
- You can assign a name to the bank. (See the following.)

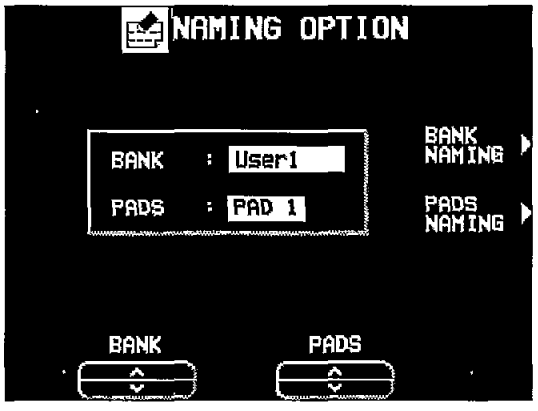
Naming for "User" and "Compile" Banks

You can assign original names to "User Bank" 1, 2, 3, "Compile Bank" 1 and 2.

1. Press the **PROGRAM MENUS** button to turn it on.
- The PROGRAM MENUS display appears.

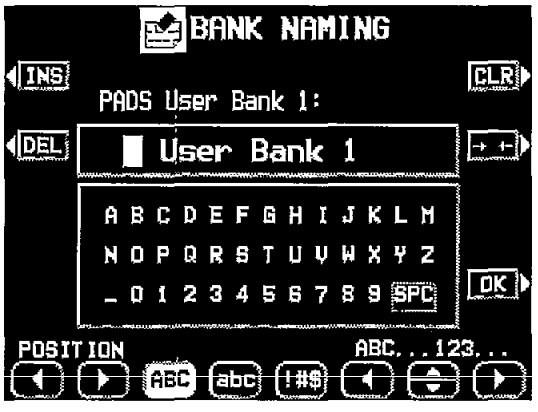
2. Select PERFORMANCE PADS.
- The PADS MENU display is shown.

3. Select NAMING.
- The display looks similar to the following.



4. Use the BANK ∧ and ∨ buttons to select the bank you are going to name ("User" 1, 2, "COMPILE" 1, 2).

5. Press the BANK NAMING button.
- The display looks similar to the following.



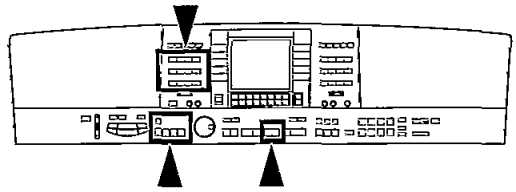
6. Assign a name to the bank.
- Use the POSITION buttons to highlight the character position in the name box. Use the ◄, ▲, ▼, ► buttons to select the alphanumeric character. Repeat these steps to type the whole name.
- Press the ABC button to switch to the screen for upper case (capital) letters, or the abc button to switch to the screen for lower case letters.
- Use the !#$ button to switch to the symbols character set.
- Use the INS button to type a space.
- Use the DEL button to erase a character.
- To erase all the characters, press the CLR button.
- You can press the →← button if you wish to have the name centered.

7. When you have finished assigning the name, press the OK button.

- For "User banks", a name can also be assigned to each pad. In this case, on the NAMING OPTION display, use the PADS ∧ and ∨ buttons to select a pad number before pressing the PADS NAMING button.

Part III Playing the rhythm

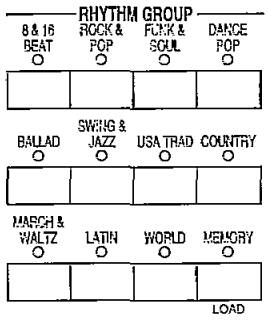
Selecting rhythms



Many exciting rhythms are stored in the memory of this instrument. First select one of the rhythm groups and then choose the desired rhythm.

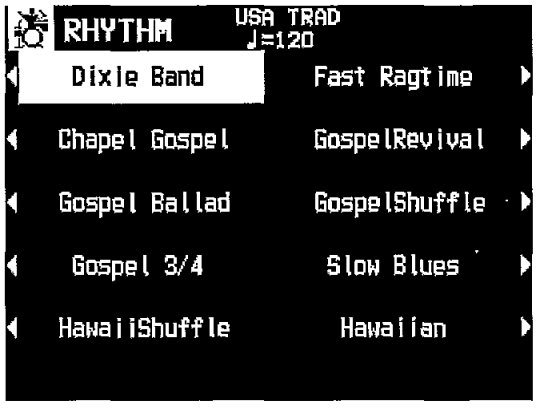
Select a rhythm

1. In the **RHYTHM GROUP** section, select a rhythm group.



- **MEMORY** is the group in which you store the rhythms you create with the **COMPOSER**. (Refer to page 110.)

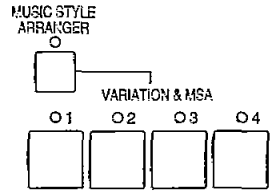
2. Select the desired rhythm from the list on the display.



- A list of rhythms available for each rhythm group can be found in the separate REFERENCE GUIDE provided.
- If there is more than one page to the display, use the **PAGE** buttons to move from one screen page to another.
- The display returns to the previous display a few seconds after you have made your selection.

■ VARIATION

There are four variations available for each rhythm. Use the **VARIATION & MSA** buttons to select the desired variation.



- Confirm that the **MUSIC STYLE ARRANGER** button is off. (If it is on, press it once to turn it off.)
- The nuance of the pattern differs with each variation number.
- You can change to a different variation while the rhythm is playing.

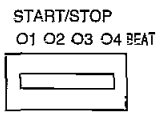
Start the rhythm

There are two ways to start the rhythm.

■ Normal start

1. Select a rhythm.

2. Press the **START/STOP** button to turn it on.



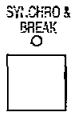
- The selected rhythm pattern immediately begins to play.
- You can stop the rhythm by pressing the **START/STOP** button again to turn it off.
- The **BEAT** indicators above the **START/STOP** button light to indicate the beat. On the first beat of the measure, the red indicator lights. On the second and succeeding beats of the measure, the green indicators light in order.
- When GENERAL MIDI is ON, the rhythm does not sound. (Refer to page 175.)

■ Synchronized start

With the synchronized start feature, the rhythm pattern starts when you play a key on the keyboard.

1. Select a rhythm.

2. Press the **SYNCHRO & BREAK** button to turn it on.

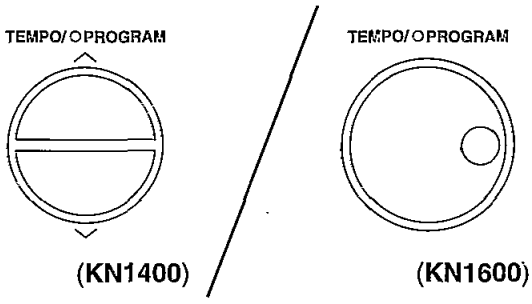


3. Play a key to the left of the keyboard split point.
- The rhythm pattern begins to play.
- You can use the synchronized start feature even when the keyboard is not divided into left and right sections. To start the rhythm, press a key to the left of the specified split point.

■ Adjust the tempo

The tempo of the rhythm pattern is adjusted with the **TEMPO/PROGRAM**.

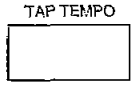
KN1400: Use the **TEMPO/PROGRAM** button.
KN1600: Use the **TEMPO/PROGRAM** dial.



- The tempo is shown on the display as a numerical value (♩ = 40 to 300).
- When the **TEMPO/PROGRAM** indicator is lit, the **TEMPO/PROGRAM** cannot be used to adjust the tempo.
- **KN1400:** When both buttons are pressed simultaneously, the tempo changes to ♩=120.
- To adjust the tempo during playback, refer to page 80.

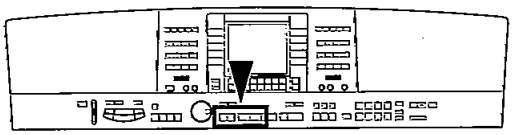
■ TAP TEMPO

You can set the tempo of the rhythm by tapping this button few times with your finger at the tempo you wish to play.



- The tempo at which the button is tapped is detected, and the tempo automatically changes correspondingly.

Playing the rhythm

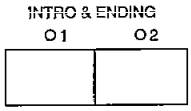


Intro, fill-in and ending patterns fitting each different rhythm pattern are permanently recorded in your Keyboard, thus allowing a versatile rhythm performance.

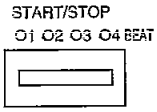
INTRO

Begin the rhythm performance with an intro pattern.

1. Press the **INTRO & ENDING 1** or **INTRO & ENDING 2** button to turn it on.



2. Press the **START/STOP** button to start the rhythm.

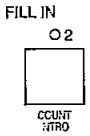


- An intro pattern is played, after which the normal rhythm pattern begins.

COUNT INTRO

You can begin the rhythm performance with a one-measure count.

1. Press the **COUNT INTRO (FILL IN 2)** button to turn it on.



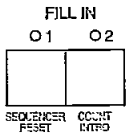
2. Press the **START/STOP** button to start the rhythm.
- A one-measure count is played, after which the normal rhythm pattern begins.

FILL IN

You can insert a fill-in pattern any time during the rhythm performance. Choose from two different fill-in patterns.

1. Select a rhythm and press the **START/STOP** button.

2. Press the **FILL IN 1** or **FILL IN 2** button.



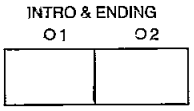
- A fill-in pattern is heard immediately for the remainder of the measure.
- When a **FILL IN** button is pressed on the last beat of the measure, the fill-in pattern continues to the end of the following measure.

ENDING

Finish the rhythm performance with an ending pattern.

1. Select a rhythm and press the **START/STOP** button.

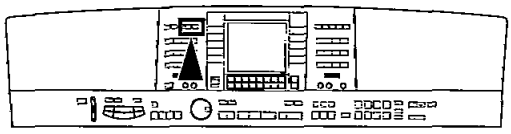
2. Press the **INTRO & ENDING 1** or **INTRO & ENDING 2** button to turn it on.



- An ending pattern is produced, and then the rhythm performance stops.

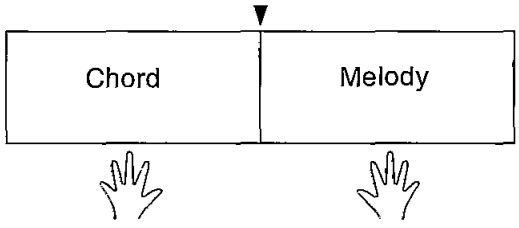
- If you accidentally press the **INTRO & ENDING** button in the middle of the tune, you can press the **FILL IN 1** or **FILL IN 2** button. The ending pattern stops, and a fill-in pattern is produced, after which the normal rhythm performance continues.

Auto Play Chord



Simply by playing a chord on the keyboard, the **AUTO PLAY CHORD** function automatically plays an accompaniment pattern which matches perfectly the selected rhythm. With a real accompaniment as a background, you can concentrate on playing the melody.

How the AUTO PLAY CHORD works



When an **AUTO PLAY CHORD** mode is selected, an automatic accompaniment which matches the rhythm you have chosen is played in the chord which you specify with your left hand. The melody is played with your right hand.

- The accompaniment pattern of the **AUTO PLAY CHORD** is composed of five parts: **DRUMS, BASS, ACCOMP 1, ACCOMP 2** and **ACCOMP 3.**
- The volume of each part can be adjusted with the buttons below the display. (Refer to page 30.)

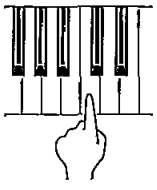
Playing chords

Choose from three ways of playing chords.

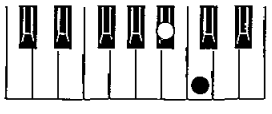
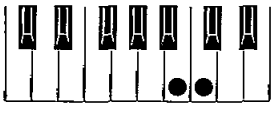
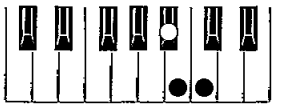
■ **ONE FINGER mode**

In the ONE FINGER mode, a major chord can be played just by pressing the key for its root note.

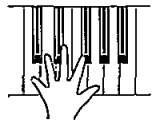
Example: C chord



Minor, seventh and minor seventh chords are also easily produced.

minor chord	seventh chord	minor seventh chord
Play the root note plus a black key to the left of it.	Play the root note plus a white key to the left of it.	Play the root note plus a black key and a white key to the left of it.
Example: Cm 	Example: C7 	Example: Cm7 

■ **FINGERED mode**
In the FINGERED mode, you specify the chord by playing all the notes in the chord.



- Play at least three notes to specify the chord.
- If the **CHORD FINDER** procedure is used, you can see the types of chords that can be specified and the keys you press to play them. (Refer to page 61.)

■ **PIANIST mode**
In the PIANIST mode, the entire keyboard can be used to specify chords (FINGERED mode) for the automatic accompaniment; a **RIGHT** part is assigned to all the keys, and the keyboard does not split.

- If the **CHORD FINDER** procedure is used, you can see the types of chords that can be specified and the keys you press to play them. (Refer to page 61.)
- When specifying chords, if you press a key a perfect 5th or more below the lowest note of the chord, the **BASS** part becomes a pattern based on that note.

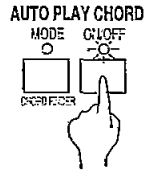
<APC HOLD>
If this function is assigned to the Foot Switch (sold separately), then during a performance in the PIANIST mode, for example, pressing the Foot Switch will play the currently specified chord in that timing, allowing you to focus your performance on a solo melody.

- The accompaniment continues in the same chord as long as the Foot Switch is depressed, and it does not change even if other chords are played.
- To change the Foot Switch assignment, refer to page 162.

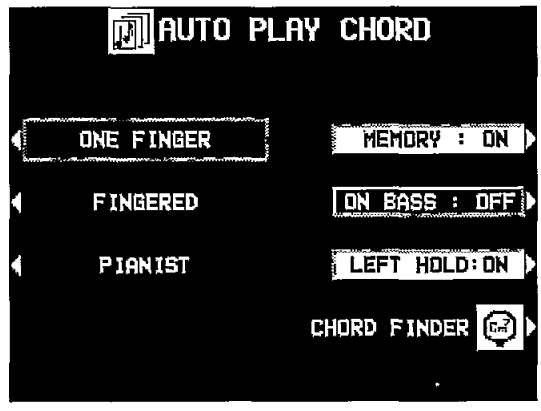
How to use the AUTO PLAY CHORD

1. Select the desired rhythm and sound(s), and set the tempo.

2. Press the **AUTO PLAY CHORD's ON/OFF** button to turn it on.



3. Press the **AUTO PLAY CHORD's MODE** button to turn it on.
- The display looks similar to the following.



4. Select an **AUTO PLAY CHORD** mode (ONE FINGER, FINGERED or PIANIST).
- After a few seconds, the display returns to the previous display.
- If the ONE FINGER or FINGERED mode was selected, the keyboard automatically splits into right and left sections.

■ **MEMORY**
When the MEMORY button is ON, even when the keys are released, the chord is memorized and the accompaniment continues to play until you specify another chord.

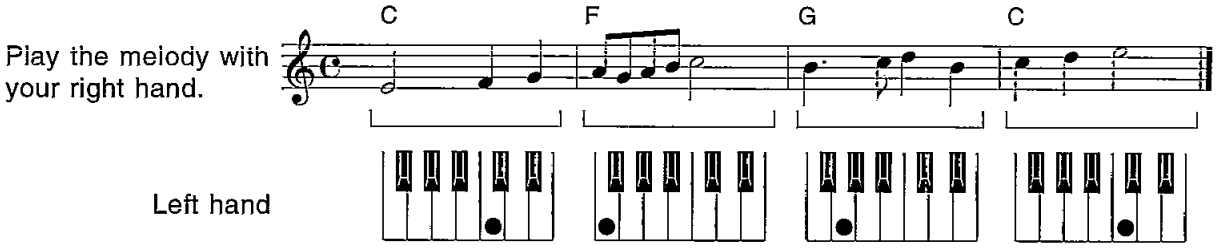
■ **ON BASS**
If the ON BASS button is ON while the FINGERED or PIANIST mode is selected, the **BASS** part is produced in the key of the lowest note of the played chord, thus making it possible to play chords such as C on G.

- For example, with the ON BASS button on, if you play a C chord by pressing the keys G, C and E, the **BASS** part is produced in the key of G.

5. Press the **START/STOP** button to begin the rhythm.
- You can start the rhythm by playing a key on the keyboard. (Refer to page 55.)

6. Specify a chord.
- If the ONE FINGER or FINGERED mode was selected, specify the chord on the keyboard section to the left of the split point.
- An accompaniment pattern in the specified chord is automatically played. Play the melody with your right hand.

Example of how to play a ONE FINGER accompaniment



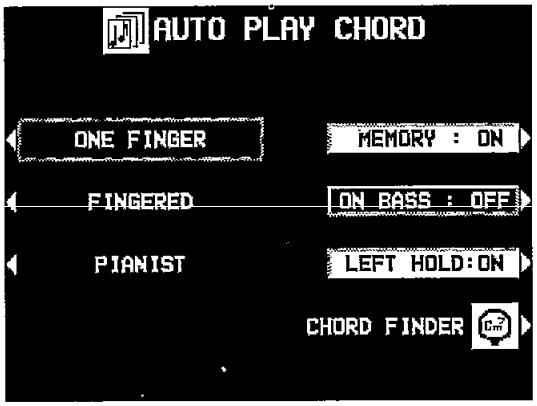
- When you use **FILL IN**, **INTRO** and **ENDING**, the automatic accompaniment is also used in these patterns.
- In the ONE FINGER mode, the sound assigned to the left section of the keyboard (**LEFT** part) does not sound in the initialized condition.
- You can set the mode which determines how the **LEFT** part sounds during an **AUTO PLAY CHORD** performance. (Refer to the next page.)
- In the initialized condition, when the rhythm is off, if an **AUTO PLAY CHORD** mode is on and a chord is specified, the specified root note (R. BASS part) and chord notes (CHORD part) are produced. The volumes of these notes can be adjusted. (Refer to page 31.)

7. To stop the automatic accompaniment, press the **START/STOP** button.
- If you wish the automatic accompaniment to begin and end the performance, set the **ON/OFF** button to off.

Left Hold

This setting determines how the **LEFT** part sounds when the **LEFT** button in the **CONDUCTOR** is on during a performance with the ONE FINGER or FINGERED mode.

1. Press the **MODE** button to turn it on.
- The display changes to the following.



2. Use the LEFT HOLD: ON/OFF button to set the mode to on or off.

■ **OFF**

ONE FINGER:
The **LEFT** part turns off.

FINGERED:
The **LEFT** part sounds from the pressed chord keys.

- When you select the ONE FINGER mode, the **LEFT** button in the **CONDUCTOR** section turns off automatically.

■ **ON**

ONE FINGER:
The **LEFT** part produces the full chords.

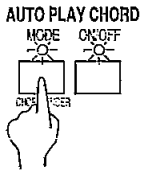
FINGERED:
The **LEFT** part sounds from the pressed chord keys.

- Touch response does not function for the **LEFT** part.
- When the MEMORY button is on, even when the keys are released, the **LEFT** part sound continues to play.

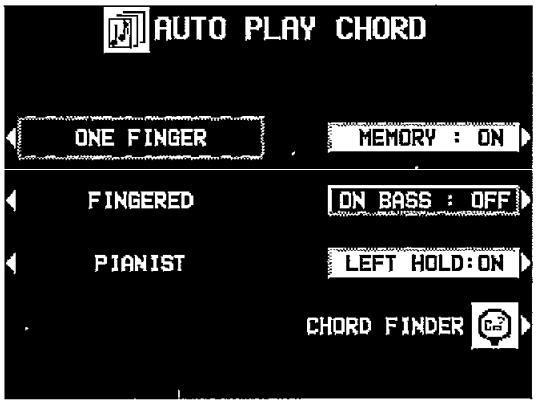
CHORD FINDER

The **CHORD FINDER** can help, for example, when you do not know which keys to press to specify a given chord. When you input the chord name, the **CHORD FINDER** shows you which keys to press and even lets you hear the notes that make up.

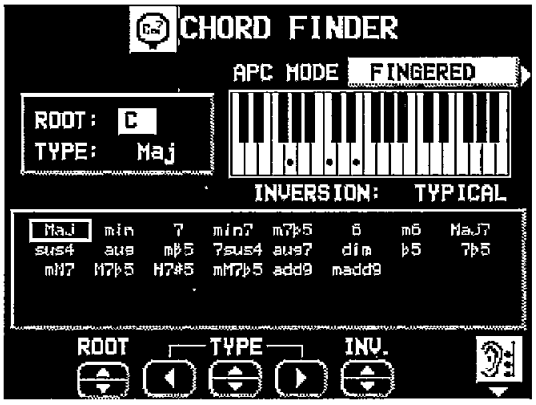
1. Press the **AUTO PLAY CHORD**'s **MODE** button to turn it on.



- The display changes to the following.



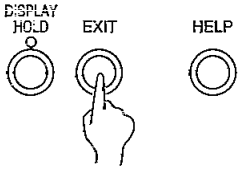
2. Select CHORD FINDER.
- The display changes to the following.



3. Use the APC MODE button to select the automatic accompaniment mode you will use to specify chords (FINGERED, PIANIST).
- When storing chords with the **SEQUENCER**, this button is not shown (the mode is fixed at FINGERED).
- In the list column are shown the chords which can be specified in each mode.

4. Use the ROOT buttons to select the root note of the chord. Use the TYPE buttons to select the type of chord.
- A typical way to finger the specified chord (TYPICAL) is illustrated on a keyboard diagram.
- Each time the INV. button is pressed, different INVERSION fingerings are illustrated in order. (If there is no INVERSION fingering for the specified chord, this button is not shown on the display.)
- When the button with a picture of an ear is pressed, the notes of the illustrated chord sound.

5. To exit the **CHORD FINDER** procedure, press the **EXIT** button.



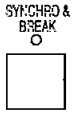
- You can also access this display by pressing and holding the **CHORD FINDER** (**MODE**) button for a few seconds.

BREAK function

With the break function, the rhythm starts when the left keyboard is played and stops when the fingers are removed from the keys.

1. Select an **AUTO PLAY CHORD** mode.
- At this time, the MEMORY button should be OFF.

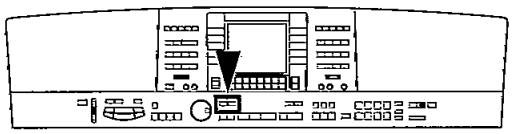
2. Press the **SYNCHRO & BREAK** button to turn it on.



3. Specify a chord.
- The automatic accompaniment begins to play (synchronized start).
- For the PIANIST mode, play the keys to the left of the currently set split point.

4. Release the chord keys.
- The automatic accompaniment stops. When the keys are pressed again, the rhythm starts from the first beat.

Fade In/Fade Out



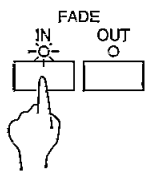
Add interest to your performance by starting a part with a fade-in or ending it with a fade-out.

FADE IN

At the beginning of the song, the volume of each part rises slowly.

1. Set up the panel settings for your performance.

2. Turn on the **FADE IN** button.



- The indicator flashes. In this condition, the volumes for all parts change to 0 and no sound is produced from this instrument until the **FADE IN** is turned off or until step 3 is executed.

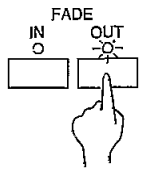
3. Play the keyboard or press the **START/STOP** button.
- The volume slowly builds to its preset level.
- For the fade-in effect for a rhythm part or when playing back a **SEQUENCER** performance, turn on the **FADE IN** button before pressing the **START/STOP** button.
- At the end of the fade-in, the **FADE IN** indicator goes out.
- During the fade-in, FADE IN is shown on the normal display.

FADE OUT

At the end of the song, the volume of each part gradually fades to nothing.

1. Start the performance.

2. Turn on the **FADE OUT** button at the point you want the fade-out to start.



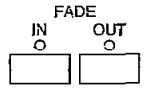
- The volumes of all the parts slowly fade to 0.
- The indicator flashes to show that fade-out is completed, and then goes out. The volumes for all parts return to their specified settings.
- If you wish to interrupt the fade-out, press the **FADE OUT** button to turn it off.

The volume balance buttons do not work while the FADE IN or FADE OUT indication is shown on the display.

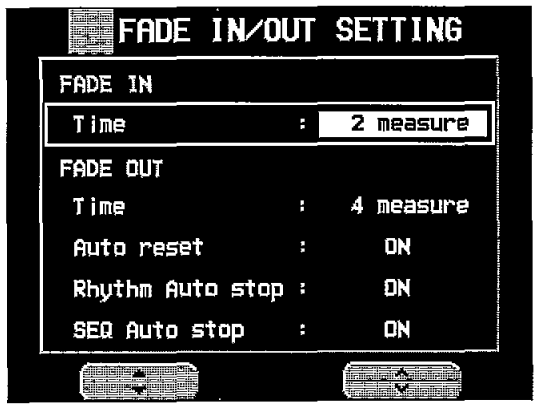
FADE SET

Adjust the settings for the FADE IN and FADE OUT.

1. Press and hold the **FADE IN** or **FADE OUT** button for a few seconds.



- The display looks similar to the following.

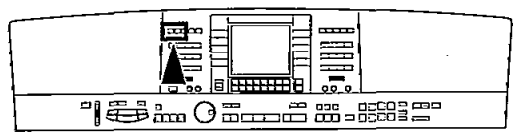


2. Use the ▲ and ▼ buttons to select the item. Use the ∧ and ∨ buttons to change the setting.

FADE IN
  Time:
    Specify the time elapsed between 0 volume to the set volume (1 measure to 16 measure).
FADE OUT
  Time:
    Specify the time elapsed between the set volume and 0 volume (1 measure to 16 measure).
  Auto Reset:
    Specify whether the volume of each part automatically returns to its specified setting (ON, OFF).
  Rhythm Auto stop:
    Specify whether the rhythm turns off after fade-out is completed (ON, OFF).
  SEQ Auto stop:
    Specify whether the **SEQUENCER** playback automatically stops after fade-out is completed (ON, OFF).

- The display returns to the previous display a few seconds after you have changed the settings.
- You can also access this display from the CONTROL MENU display. (Refer to page 161.)

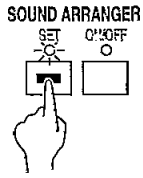
Sound Arranger



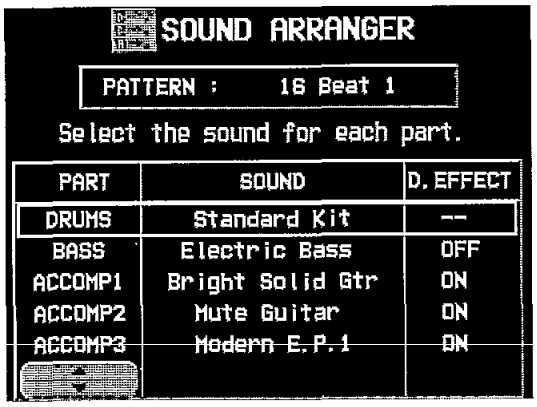
The **SOUND ARRANGER** feature lets you select other sounds for the **AUTO PLAY CHORD** parts of each rhythm.

1. Select the rhythm whose sound you wish to change.
- Do not select the **MEMORY** button.

2. In the **SOUND ARRANGER**, press the **SET** button to turn it on.



- The display looks similar to the following.



3. Use the ▲ and ▼ buttons to select the part whose sound you wish to change.

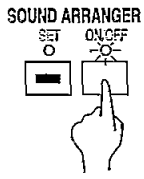
4. Select the desired sound.
- The **DIGITAL EFFECT** on/off status can also be specified (except for **DRUMS** part).
- For the **DRUMS** part, select sounds from the **DRUM KITS** group.
- Sounds from the **DIGITAL DRAWBAR (KN1600)** and **DRUM KITS** groups cannot be selected for the **ACCOMP** and **BASS** parts.
- The sound and on/off status of the **DIGITAL EFFECT** are shown on the display.

5. Repeat steps 3 and 4 for the other parts as desired.

6. When you have finished selecting the sounds, press the **SET** button to turn it off.

Playing back the sounds

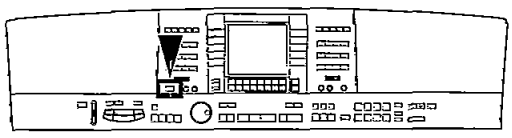
1. In the **SOUND ARRANGER**, press the **ON/OFF** button to turn it on.



2. Start the rhythm (automatic accompaniment).
- When the **ON/OFF** button is off, the factory-preset sounds are produced.

- This setting can be set separately for each rhythm.
- If you wish to modify the settings you specified, while the **ON/OFF** button is on, press the **SET** button to turn it on.

One Touch Play



ONE TOUCH PLAY automatically sets a suggested combination of sounds and an appropriate tempo for your chosen rhythm style.

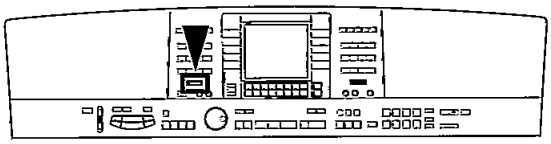
1. Select a rhythm pattern.
- Do not select the **MEMORY** button.

2. Press and hold the **ONE TOUCH PLAY** button for a few seconds.

- During setting, the style name is shown on the display.
- The **AUTO PLAY CHORD** and the **SYNCHRO & BREAK** are automatically turned on, and the sounds and effects, volume balances, tempo etc. that are ideal for your selected rhythm are automatically set.

3. Play the keyboard.
- When you specify a chord, the automatic rhythm begins to play immediately.

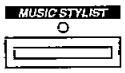
Music Stylist (KN1600)



MUSIC STYLIST sets up your instrument with a suitable registration for a specific style of music or tune.

Setup by music style

1. Press the **MUSIC STYLIST** button to turn it on.

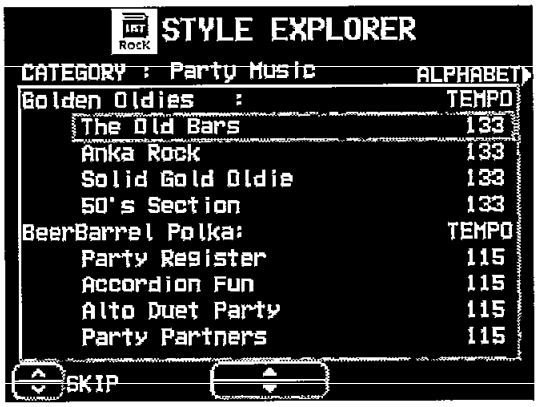


- The display looks similar to the following.

2. Select STYLE EXPLORER.
- The display looks similar to the following.

3. Use the MAIN CATEGORY ▲ and ▼ buttons to select a category. Use the SUB CATEGORY ▲ and ▼ buttons to select a subcategory.

4. Press the OK button.
- The display looks similar to the following.



5. Use the ▲ and ▼ buttons to select a music style.
- Each subcategory is divided into styles.
- During the search, you can use the SKIP ∧ and ∨ buttons to skip to the previous or following subcategory.
- The **AUTO PLAY CHORD** and the **SYNCHRO & BREAK** turn on, and the sounds, effects, volume balances, rhythm and tempo etc. which are best suited for the selected music style are automatically selected.

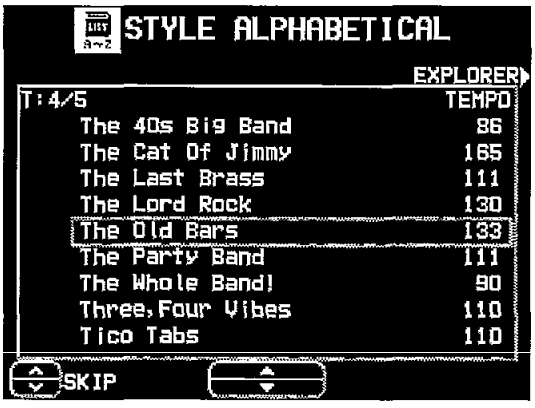
6. Play the keyboard.
- When you specify a chord, the automatic rhythm begins to play immediately.
- Turn the **MUSIC STYLIST** button off if you wish to have the normal display active during a performance.

Setup by alphabetical order

You can use alphabetical or numerical search to select a style name.

1. Press the **MUSIC STYLIST** button to turn it on.
- The display looks similar to the following.

2. Select STYLE ALPHABETICAL.
- The display looks similar to the following.

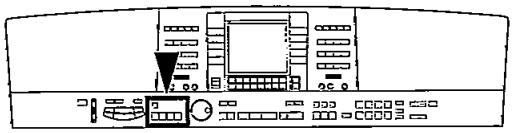


3. Use the ▲ and ▼ buttons to select a tune.
- You can use the SKIP ∧ and ∨ buttons to skip to the previous or following alphabetical or numerical heading.
- The **AUTO PLAY CHORD** and the **SYNCHRO & BREAK** turn on, and the sounds, effects, volume balances, rhythm and tempo etc. which are best suited for the selected song are automatically selected.

4. Play the keyboard.
- When you specify a chord, the automatic rhythm begins to play immediately.
- Turn the **MUSIC STYLIST** button off if you wish to have the normal display active during a performance.

- On the STYLE EXPLORER and STYLE ALPHABETICAL displays, each press of the ALPHABET/EXPLORER button at the upper right allows you to move freely between the two displays.
- After deciding on a style with the **MUSIC STYLIST**, if you record the settings in the **PANEL MEMORY**, the same style name is copied to the **PANEL MEMORY** (up to 16 characters). When you recall the **PANEL MEMORY** settings, this style name is shown at the top of the normal display. (Refer to page 70.)

Music Style Arranger



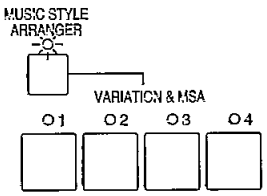
The **MUSIC STYLE ARRANGER** helps you to make professional registration changes during your performance. Select between four contrasting registrations at the push of a button, or let your instrument change the registration automatically for you when you use **FILL IN 1** or **2**. The **MUSIC STYLE ARRANGER** will also alter the accompaniment in character with the registration change creating a polished sounding arrangement.

How to use the MUSIC STYLE ARRANGER

1. Select a rhythm pattern.
- Do not select the **MEMORY** button.

2. Press the **MUSIC STYLE ARRANGER** button to turn it on.

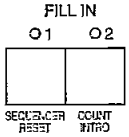
3. Use the **VARIATION & MSA** buttons to select a style (**1** to **4**).



- The nuance of the pattern differs with each number.
- The panel settings (including the tempo) change according to the selected rhythm and music style. The **AUTO PLAY CHORD**, the MEMORY button and the **SYNCHRO & BREAK** button are automatically turned on. When a key on the left section of the keyboard is pressed, the automatic rhythm begins to play immediately.
- During your performance, the style can be changed, but the tempo does not change.

How to change the music style during your performance

While you are playing the keyboard with the **MUSIC STYLE ARRANGER** on, press the **FILL IN 1** or **FILL IN 2** button.

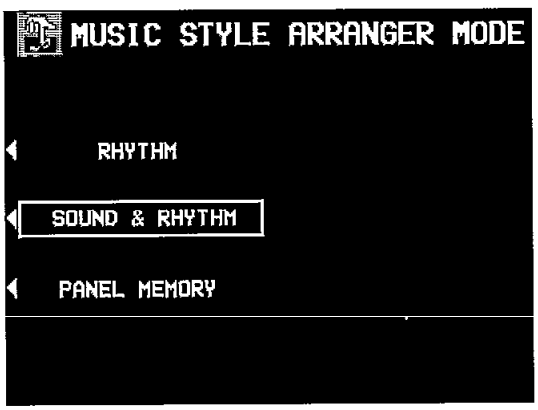


- Each time the **FILL IN 1** button is pressed, the **FILL IN 1** pattern plays, and then the music style changes in the **4** → **3** → **2** → **1** order. And each time the **FILL IN 2** button is pressed, the **FILL IN 2** pattern plays, and then the style changes in the **1** → **2** → **3** → **4** order.

■ MUSIC STYLE ARRANGER mode

You can define which panel settings change by pressing a **FILL IN** button when the **MUSIC STYLE ARRANGER** is used.

1. Press and hold the **MUSIC STYLE ARRANGER** button for a few seconds.
- The display changes to the following.



2. Select the mode.

RHYTHM:
Only the rhythm changes.

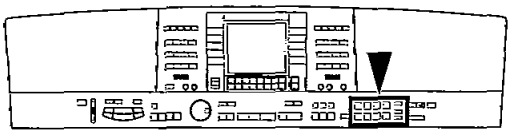
SOUND & RHYTHM:
The sound, effects, rhythms, etc. change.

PANEL MEMORY:
The **PANEL MEMORY** number (BANK1: **1** to **4**) changes. You can store your desired panel settings in the **PANEL MEMORY** beforehand and switch from one to another quickly.

- After a few seconds, the display exits the setting mode.

- You can also access this setting display from the CONTROL MENU display. (Refer to page 161.)

Panel Memory



PANEL MEMORY stores all the current panel settings so you can recall them at the push of a button.

How to store the panel settings

Store up to 24 panel settings (3 banks x 8 memories). By storing all the panel settings you use for a song in the same bank, for example, you can switch from one panel setup to the next in a flash.

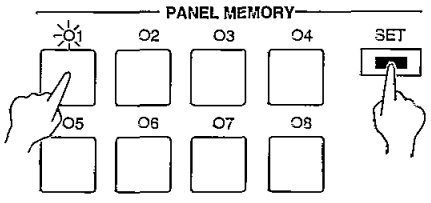
1. Set up the desired panel settings (sounds, volumes, etc.)

2. Press the **BANK VIEW** button to turn it on.

- The BANK SELECT display appears.

3. Select the desired bank.

4. With the **SET** button held down, press one of the numbered buttons of the **PANEL MEMORY** (**1** to **8**).



- The panel settings are now stored in the specified bank and number.

■ **BANK VIEW**
After selecting a bank, you can use the **PAGE** buttons to go to the PAGE2 BANK VIEW page and confirm the memory names of that bank's 8 memories.

- You can use the BANK ∧ and ∨ buttons to view other banks.
- You can also access this display by pressing and holding any of the **PANEL MEMORY** number buttons (**1** to **8**) for a few seconds.

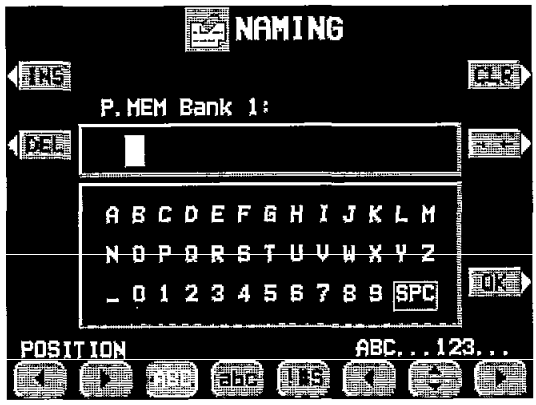
Assign a name to the bank/memory

You can assign names to the banks and memories.

1. Select a bank or memory.

2. Use the **PAGE** buttons to go to the PAGE2/2 BANK VIEW page on the display.

3. Press the BANK NAMING button to assign a name to the bank, or the MEMORY NAMING button for the memory.
- The display looks similar to the following.



4. Assign a name.
- Use the POSITION buttons to highlight the character position in the name box. Use the ◄ , ▲, ▼, ► buttons to select the alphanumeric character. Repeat these steps to type the whole name.
- Press the ABC button to switch to the screen for upper case (capital) letters, or the abc button to switch to the screen for lower case letters.
- Use the !#$ button to switch to the symbols character set.
- Use the INS button to type a space.
- Use the DEL button to erase a character.
- To erase all the characters, press the CLR button.
- You can press the →← button if you wish to have the name centered.

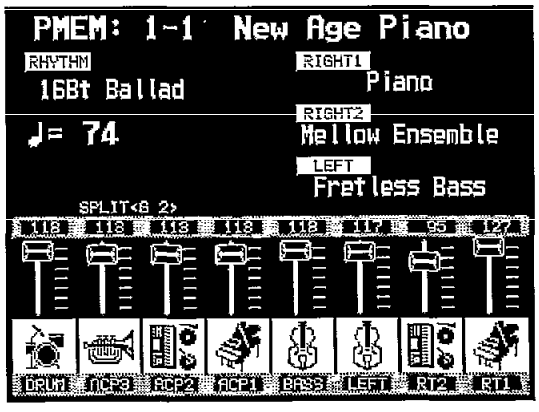
5. When you have finished assigning the name, press the OK button.

Recall the panel setup

1. Press the **BANK VIEW** button to turn it on. Select a bank.

2. Press the desired **PANEL MEMORY** number button (**1** to **8**).
- The panel setup changes to the one stored in the specified memory.
- You can then change the sound settings, etc. manually; however, the contents of the memory remain unchanged until you store them again.
- The "Control Preset" bank of the **PERFORMANCE PADS** or the Foot Switch (sold separately) can also be used to change from one **PANEL MEMORY** setup to another. (Refer to pages 47, 162.)

- The currently selected bank, memory number and memory name are shown in the top line on the normal display.



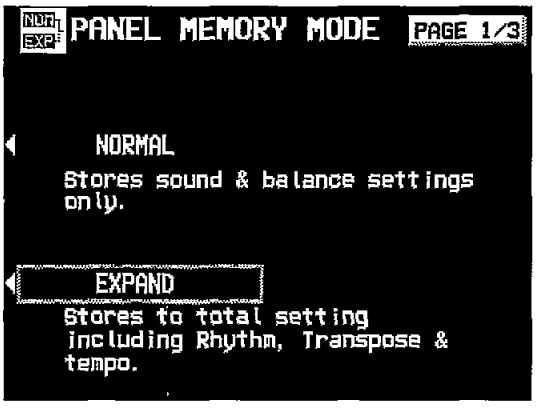
■ **NEXT BANK**
You can press the **NEXT BANK** button to switch to the next bank. This allows you to change banks without exiting the normal display.

- Each time the **NEXT BANK** button is pressed, the bank number is incremented by 1. After bank 3, the bank number changes to 1.
- The panel settings change when a **PANEL MEMORY** number button (**1** to **8**) is pressed.

PANEL MEMORY mode

You can define which panel settings are recalled when the **PANEL MEMORY** is used.

1. Press and hold the **SET** button for a few seconds.
- The display changes to the following.



2. Select the mode.

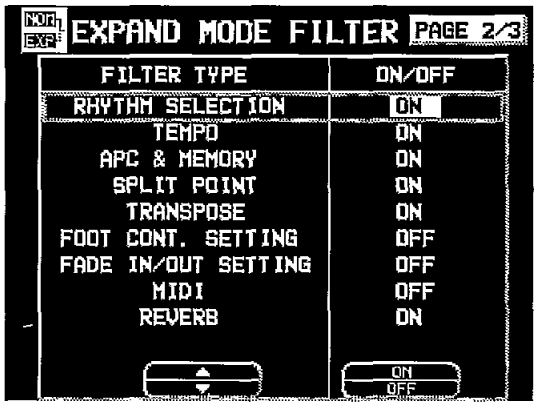
NORMAL:
The sounds and volume balance, and **CONDUCTOR** status are stored.

EXPAND:
All the instrument's settings are stored, including the rhythm (except for **SOUND ARRANGER** on/off status), **TRANSPOSE**, tempo, etc.

- After a few seconds, the display exits the setting mode.

■ **EXPAND MODE FILTER**
You can specify which data is stored in the EXPAND mode.

1. Use the **PAGE** buttons to access the PAGE 2/3-3/3 EXPAND MODE FILTER display.
- The display looks similar to the following.

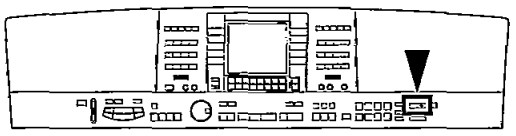


2. Use the ▲ and ▼ buttons to select the item.

3. Use the ON and OFF buttons to store the on or off status for the selected item.

Part IV Sequencer

Outline of the Sequencer



A sequencer records your performance in a similar way to a tape recorder. This instrument's **SEQUENCER** allows you to record up to 10 performances in a variety of ways. You may want to record your entire performance in one go (especially if you are using **AUTO PLAY CHORD** to provide the accompaniment), or to build up a complex arrangement with several different parts playing together, like an orchestral score. This instrument's **SEQUENCER** has 16 tracks. This means that you can record 16 different parts. However, you don't have to use all 16 tracks. For some uses you may only need to use one or two tracks. This instrument's **SEQUENCER** enables you to edit your recorded performance. Unlike a tape recorder you can change the sound or the tempo during playback, or correct wrong notes or timing errors.

SEQUENCER features

■ **You can change the tempo without changing the pitch**
When you record your performance at a slow tempo and play it back at a faster tempo, the pitch stays the same.

■ **Consistent sound**
Your performance is reproduced by a sound module as it reads digital data. So, unlike a recorded tape, the sound never deteriorates no matter how many times you play back your performance.

■ **Edit your recorded performance**
Comprehensive editing functions allow you to modify your recorded performance. Data can easily be erased, corrected or copied, providing an especially convenient tool for creating your original tunes.

■ **Instant search**
A recorded tape has to be rewound, but digital action means you can return to the beginning of your performance, or find any measure, instantly.

■ **Save your performances on disks**
All the data of your recorded performances can be stored on disks. The built-in Disk Drive also allows you to play commercially sold disks on your own Keyboard.
- Features and operation of the built-in Disk Drive are explained in Part VI: Disk Drive (page 115).

Popular features

■ **Simplified recording method**
EASY RECORD is a feature that allows you to bypass the more complex recording procedures so you can record and play back your performance quickly and easily.
- You can also record an accompaniment from the **AUTO PLAY CHORD**.

■ **Create a one-man ensemble**
Use the REALTIME RECORD function to record your performance in up to 16 tracks and create your own orchestra or band.

■ **Store individual data to create your song**
For repeating patterns or those especially complicated phrases, the STEP RECORD feature is convenient for recording the notes one-by-one.
- This method can be used to store both the chord progression for the automatic accompaniment and the rhythm changes.

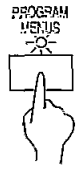
Memory capacity

Up to 10 songs can be stored in the **SEQUENCER**. Expressed in terms of notes, the total number of notes which can be stored in all the **SEQUENCER** songs and tracks is about 40,000. The remaining memory available for recording is shown on the display as a percentage (MEMORY= %).
- When "Memory full!" appears on the display, no more data can be stored in the **SEQUENCER**.
- The recorded contents can be saved on a disk for recall at a later time. (Refer to page 124.)

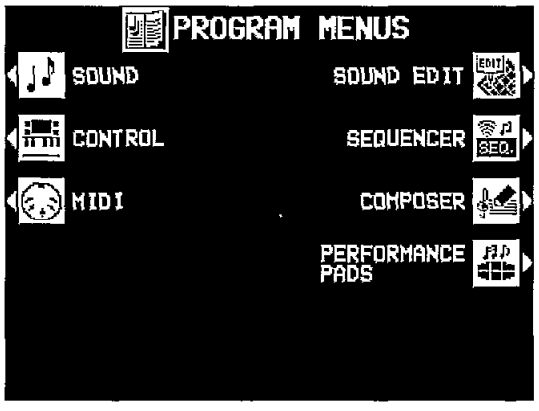
SEQUENCER menu

The configuration of the **SEQUENCER** setting display is as follows.

1. Press the **PROGRAM MENUS** button to turn it on.



- The display looks similar to the following.

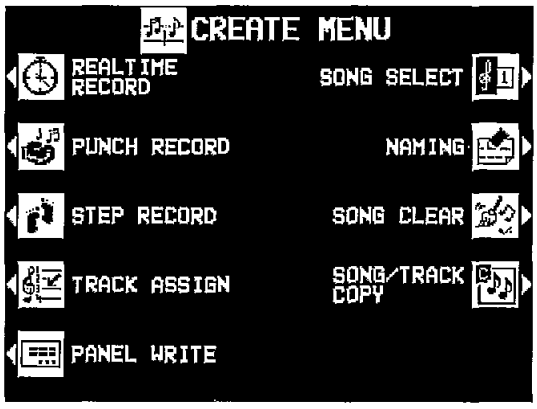


2. Select SEQUENCER.
- The display looks similar to the following.

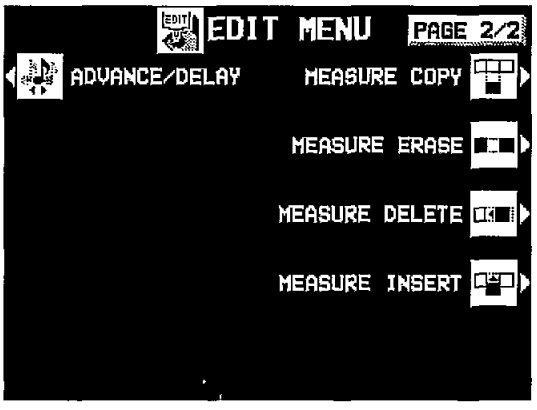
- The SONG ∧ and ∨ buttons are used to select a song.
- You can press the NAMING button and assign a name to the song. (Refer to page 82.)
- You can press the PANEL WRITE button to store the current settings of the instrument at the beginning of the song. (Refer to page 92.)

3. Select CREATE or EDIT, and follow the corresponding procedure.

<CREATE>



<EDIT>



Summary of the SEQUENCER menu items

CREATE
These functions are recording operations used for creating a new performance.

REALTIME RECORD (page 77)
Record each part of your performance just as you play it on the keyboard.

PUNCH RECORD (page 83)
Correct a selected portion of your recorded performance.

STEP RECORD (page 85)
Store the sounds note-by-note on the display.
- You can also store the chord or rhythm progression for the **AUTO PLAY CHORD**.

TRACK ASSIGN (page 91)
Assign parts to tracks.

PANEL WRITE (page 92)
Record the panel settings, such as the sounds and volume balance, etc., at the beginning of the song.

SONG SELECT (page 82)
Select a song.

NAMING (page 82)
Specify the name of the song to record or play back.

SONG CLEAR (page 93)
Erase all the recorded data of a song.

SONG/TRACK COPY (page 93)
Copy data of specific songs or tracks.

EDIT
Use these functions to edit the recorded data.

NOTE EDIT (page 94)
Store and correct performance (NOTE) data on a piano roll display.

DRUM EDIT (page 96)
Store and correct DRUMS part data on a special display.

QUANTIZE (page 97)
Correct the timing of your performance.

TRANSPOSE (page 98)
Change the key of the performance data.

VELOCITY CHANGE (page 98)
Modify the recorded velocity (how hard the keyboard was played) of performance data.

NOTE CHANGE (page 100)
Change the pitch of specific notes.

SONG/TRACK COPY (page 93)
Copy data of specific songs or tracks.

SONG CLEAR (page 93)
Erase all the recorded data of a song.

TRACK CLEAR (page 99)
Erase the contents of a specific track.

TRACK MERGE (page 99)
Merge the recorded contents of two tracks and store in a third track.

ADVANCE/DELAY (page 100)
Speed up or delay the sound production of performance data.

MEASURE COPY (page 101)
Copy the contents of specific measures.

MEASURE ERASE (page 102)
Erase the contents of specific measures.

MEASURE DELETE (page 102)
Delete specific measures from the performance.

MEASURE INSERT (page 103)
Insert additional measures in the performance.

About the measure count

The measure count on the display corresponds to the time signature of the selected rhythm. However, if rhythm data is stored in the RHYTHM part and that part is played back, the measure count on the display corresponds to the stored rhythm data. (Refer to page 89.)
- If you wish to use a time signature not available in the preset rhythms, use the **COMPOSER** to create a new time signature. (Refer to page 104.)

Sequencer parts

The following summary explains what is stored in each **SEQUENCER** part.

Part name [name on display]	Used for	Recorded contents
RIGHT1 [RT1] **RIGHT2** [RT2] **LEFT** [LFT] **PART4** [P 4] ⋮ **PART15** [P15]	Recording the performance of each part	• Sound and volume settings • PART EXPRESSION • **DIGITAL EFFECT, DSP EFFECT 2, SUSTAIN** on/off • **DSP EFFECT 1, DIGITAL REVERB** depth • TUNING, KEY SHIFT, PAN settings, etc. • **PITCH BEND** wheel operation • **KN1600: MODULATION** wheel operation
DRUMS [DRM] (PART16)	Recording the drums performance with the **DRUM KITS** group sounds	• Sound (drum KIT) and volume settings • PART EXPRESSION • **DSP EFFECT 2** on/off • **DSP EFFECT 1, DIGITAL REVERB** depth
CONTROL [CTL]	Recording changes in the panel button status	• Rhythm setting and selection changes • **DIGITAL REVERB** on/off • **ACOUSTIC ILLUSION** on/off • **AUTO PLAY CHORD** status, volume balance • **MUSIC STYLE ARRANGER** status • **FILL IN 1, 2, INTRO & ENDING 1, 2** on • **PANEL MEMORY** selection changes • **TRANSPOSE** status • **TECHNI-CHORD** status • **START/STOP** on/off • **TEMPO** setting • **CONDUCTOR** status • **PERFORMANCE PADS** operation • **FADE IN/OUT** operation • TOTAL EXPRESSION
AUTO PLAY CHORD [APC]	Recording chords for the **AUTO PLAY CHORD** (REALTIME)	• **AUTO PLAY CHORD** status, volume balance • **START/STOP** on/off • **FILL IN 1, 2, INTRO & ENDING 1, 2** on
CHORD [CHD]	Recording chord progression for the **AUTO PLAY CHORD** (STEP)	• Chord progression • **FILL IN 1, 2, INTRO & ENDING 1, 2** on
RHYTHM [RHY]	Settings related to rhythm (STEP)	• Rhythm settings and selection changes • **FILL IN 1, 2, INTRO & ENDING 1, 2** on • **START/STOP** on/off • **TEMPO** setting

- You can use the TRACK ASSIGN function to assign parts to tracks as you wish. (Refer to page 91.)

■ Default part settings

1: RIGHT1	5: CONTROL	9: PART5	13: PART9
2: RIGHT2	6: RHYTHM	10: PART6	14: PART10
3: LEFT	7: DRUMS	11: PART7	15: PART11
4: APC/CHORD	8: PART4	12: PART8	16: PART12

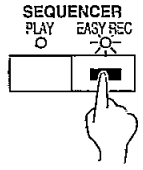
Easy Record

Suppose you are playing the Keyboard and you wish to record and play back your performance to hear how it sounds. You can bypass the set-up procedures of the full-scale sequencer and begin recording quickly and easily.

Recording procedure

1. Set the desired sounds, effects, rhythms, etc.

2. Press the **EASY REC** button to turn it on.



- The display changes to the following.

3. Use the SONG ∧ and ∨ buttons to select the song number in which to record (1 to 10).
- If you press the NAMING button, you can assign a name to your song. (Refer to page 82.)

Here is what happens when you select the EASY RECORD mode.
- The recorded data for the currently selected SONG number is erased (SONG CLEAR).
- Tracks available for recording are selected as follows.
  1: RIGHT 1 part
  2: RIGHT 2 part
  3: LEFT part
  4: APC part
  5: CONTROL part

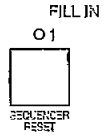
4. Press the OK button.
- The display changes to the REALTIME RECORD display.

5. Play the keyboard.
- Recording begins as soon as you start the rhythm or play the keyboard.

6. When you have finished recording, press the **EASY REC** button to turn it off.
- The **PLAY** button turns on.
- **EASY REC** cannot be used when GENERAL MIDI is ON. (Refer to page 175.)

Playback

1. Press the **SEQUENCER RESET (FILL IN 1)** button.



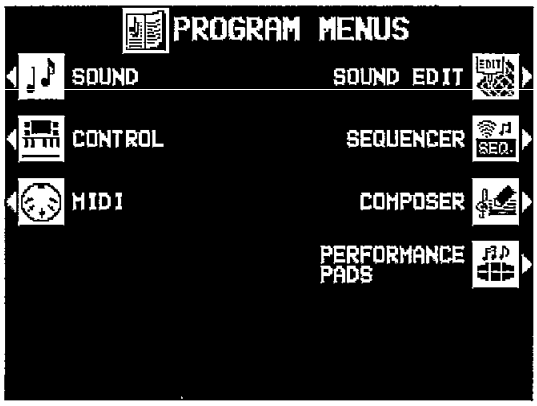
2. Press the **START/STOP** button.
- Your recorded performance is played back automatically.
- When you are finished playing back your performance, press the **SEQUENCER PLAY** button to turn it off.

Realtime Record

With REALTIME RECORD, your performance is recorded with the timing exactly as you played it on the keyboard. Use this mode to record your performance in up to 16 tracks and create your own orchestra or band.

Recording procedure

1. Press the **PROGRAM MENUS** button to turn it on.
- The display changes to the following.

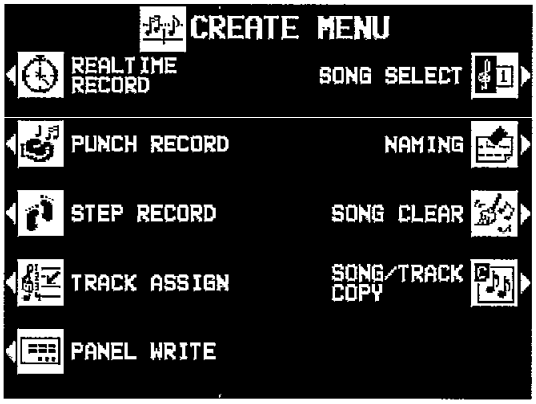


2. Select SEQUENCER.
- The display looks similar to the following.

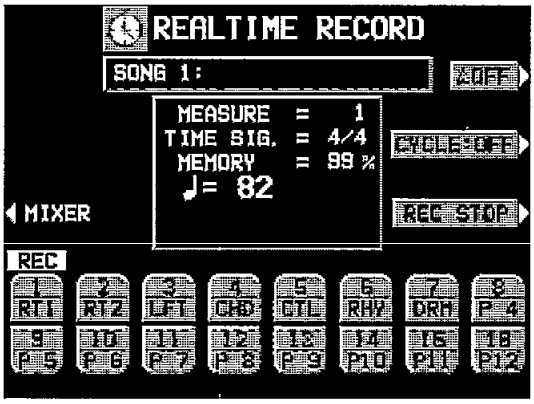
- When you press the PANEL WRITE button, the PANEL WRITE display appears. To store the currently active settings, such as the sounds, at the beginning of the song, press the OK button.

3. Use the SONG ∧ and ∨ buttons to select a song number in which to record. (The song number is shown on the display.)

4. Select CREATE.
- The display looks similar to the following.



5. Select REALTIME RECORD.
- The display looks similar to the following.



6. Use the buttons below the display to turn on the "REC" indication above the track numbers you are going to record.
- Use the upper buttons to select tracks 1 to 8, and the lower buttons to select tracks 9 to 16.
- While you are recording, you can play back tracks which are already recorded. Press the corresponding balance buttons to display "PLAY" above the track number you wish to have played back.
- You can select two or more tracks to record at one time; however, to monitor a performance part, the corresponding button in the **CONDUCTOR (RIGHT 1, RIGHT 2, LEFT)** must also be on.

- To record **AUTO PLAY CHORD** (APC) parts, turn on the **AUTO PLAY CHORD**'s **ON/OFF** button. In this case, press the **START/STOP** button when beginning recording.
- The track for the RHYTHM (RHY) part can be selected for recording only when STEP RECORD is active.

7. Set the sounds, effects, volumes, etc. for the parts you are going to record.
- If you press the MIXER button, you can use the MIXER display to visually adjust the settings for each track.
- The LOCAL ON/OFF setting on the MIXER display is used to specify whether the part assigned to that track sounds when it is played on the keyboard during recording. For the LOCAL ON/OFF during playback, use the TRACK ASSIGN display to adjust the settings. (Refer to page 91.)
- The panel settings which are active at the beginning of recording are stored.

8. Use the **TEMPO/PROGRAM** to adjust the recording tempo.
- The tempo is shown on the display as ♩=.
- If you wish to record the tempo setting and tempo changes, store them in the control (CTL) part, or use the step record to store them in the rhythm (RHY) part.

9. Turn the metronome on or off as desired with the ON/OFF button at the upper right of the display.
- The metronome selection alternates between ON and OFF each time the button is pressed.
- The metronome sound is not recorded.

10. Play the keyboard.
- Recording begins.
- You can also press the **START/STOP** button to start the rhythm and begin recording.
- If the metronome is on, when you press the **START/STOP** button, a two-measure count plays, after which recording automatically begins. In this case, the rhythm does not start. Recording does not start until the two-measure count is completed.
- The recording status is continuously updated on the display:
  MEASURE= indicates the current measure.
  TIME SIG.= indicates the current time signature.
  MEMORY= indicates the remaining memory (%) available for recording.
- If you wish to redo the recording, press the REC STOP button and then record again. To change the sounds and effects, etc. please set them again.
- If you make a mistake in recording, you can correct a specific portion of your performance without having to redo the whole part. (Refer to page 83.)

11. When you have finished recording, turn off the **PROGRAM MENUS** button.
- When the **PROGRAM MENUS** button is turned off, the ending command (END) is recorded. Note that, as long as the ending command is not recorded, blank recording continues even if you stop playing.
- The **SEQUENCER PLAY** button turns on.

■ Multi-track recording

Use the following procedure to record one track while listening to the track or tracks already recorded.

1. Follow the procedure to record the first track, and press the REC STOP button at the end of the recording.
- The indication for the track just recorded changes from "REC" to "PLAY".

2. Turn on the "REC" indication for the track you wish to record next, and select the sounds and effects, etc.

3. Press the **START/STOP** button and begin recording.
- Tracks for which "PLAY" is shown are played back, and you can record in time with this.

4. Press the REC STOP button at the end of the recording.

5. Repeat steps 2 to 4 for other tracks, as desired.

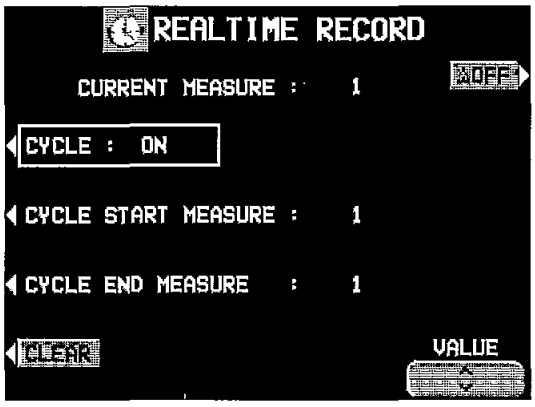
6. When multi-track recording is finished, turn off the **PROGRAM MENUS** button.
- If you wish to store part settings that you modified after recording as beginning song data, press the MIXER button and follow the PANEL WRITE procedure. (Refer to page 92.)

CYCLE RECORD

This mode allows you to have specified recording measures continuously repeated. Thus you can record measures by adding notes during any cycle.

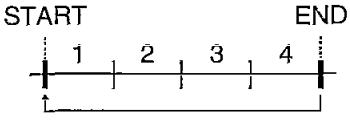
1. On the REALTIME RECORD display, specify "REC" for a track number you are going to record, and "PLAY" for track numbers you wish to have played back.

2. Press the CYCLE: OFF button.
- The display looks similar to the following.



3. Select CYCLE START MEASURE, and use the VALUE∧ and ∨ buttons to specify the beginning measure number.

4. Select CYCLE END MEASURE, and use the VALUE ∧ and ∨ buttons to specify the ending measure number.
- The measure in which the END command has been stored can also be specified.



CYCLE END MEASURE: 4

5. Press the **START/STOP** button.
- If the metronome is on, cycle recording of the specified measures begins after a two-measure count.

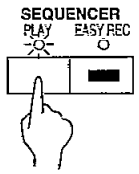
6. Play the keyboard.
- The specified measures are repeated, during which time you can record by adding notes little by little at the correct timing (over-dubbing).
- If you wish to erase all the performance data from the specified measures, press the CLEAR button.
- If CYCLE is selected and the ∨ button used to select OFF, cycle recording is not activated. This button does not work during recording.
- To return to the REALTIME RECORD display, press the **EXIT** button.
- Cycle record can also be started from the REALTIME RECORD display whenever the CYCLE: ON indication is shown.

7. When you have finished recording, turn off the **PROGRAM MENUS** button.

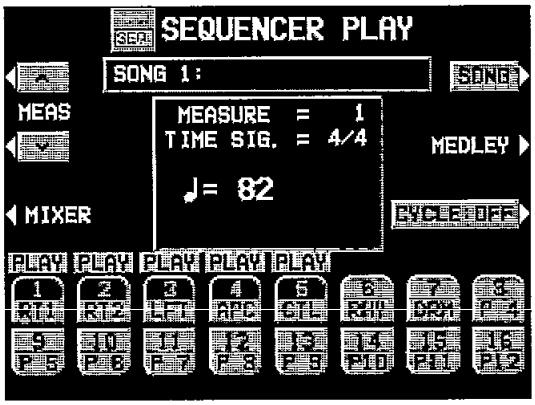
Sequencer Play

Play back your recorded performance.

1. Press the **SEQUENCER PLAY** button to turn it on.



- The display looks similar to the following.



2. Use the SONG button to select the song number you wish to play back.

3. Use the balance buttons below the display to show "PLAY" above the track numbers you wish to have played back.
- Highlighted track numbers indicate tracks that are already recorded.
- Use the upper buttons to select tracks 1 to 8, and the lower buttons to select tracks 9 to 16.
- You can select two or more tracks to play back at one time.

4. Press the **SEQUENCER RESET (FILL IN 1)** button.
- The **SEQUENCER** returns to the beginning of the song and the beginning panel settings are recalled.

5. To begin playback from a measure other than measure 1, use the MEAS ∧ and ∨ buttons to specify the beginning measure.
- "MEASURE=" indicates the current measure number.

6. Press the **START/STOP** button.
- The recorded performance is played back from the specified measure.
- When playback is begun from a measure in which an **INTRO**, **COUNT INTRO**, **FILL IN** or **ENDING** is recorded, the corresponding function does not work.
- You can press the MIXER button and modify the settings for each part.

7. To stop playback, press the **START/STOP** button.
- If the **START/STOP** button is pressed again, playback will continue from the point it was interrupted.

8. When you are finished playing back your performance, press the **SEQUENCER PLAY** button to turn it off.

If "PLAY" is specified for the track to which the RHYTHM (RHY) part is assigned, the MEASURE display used in the STEP RECORD and EDIT displays is shown conforming to the time signature data stored in the RHYTHM part.

Adjusting the playback tempo

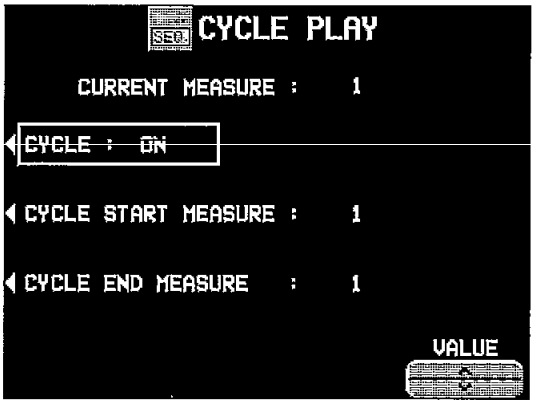
Even with a song having recorded tempo data, you can use **TEMPO/PROGRAM** or **TAP TEMPO** to adjust the tempo to your liking.
- When the tempo is changed, all the tempo data of that song is automatically changed by the same ratio. Accordingly, even in song data in which tempo change data is stored, a single adjustment of the tempo produces a natural-sounding playback.
- To return to the original tempo, while the song is stopped press the **SEQUENCER RESET** button. Note that the tempo change is also canceled when you switch to another song or load a new song.
- The adjusted tempo is canceled when you begin the recording procedure and the original tempo data will be recorded.

CYCLE PLAY

You can have specified measures played back repeatedly.

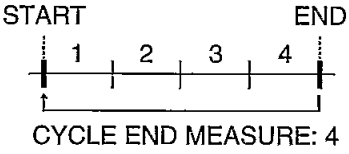
1. On the SEQUENCER PLAY display, specify "PLAY" for track numbers you wish to have played back.

2. Press the CYCLE button.
- The display looks similar to the following.



3. Select CYCLE START MEASURE, and use the VALUE ∧ and ∨ buttons to specify the beginning measure number.

4. Select CYCLE END MEASURE, and use the VALUE ∧ and ∨ buttons to specify the ending measure number.
- The measure in which the END command has been stored can also be specified.



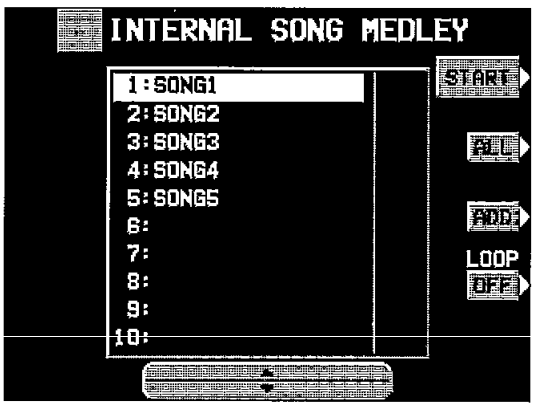
5. Press the **START/STOP** button.
- Cycle playback of the specified measures begins.
- Normally the rhythm pattern is not played back.

6. To stop cycle playback, press the **START/STOP** button again.
- During playback stop, if the **SEQUENCER RESET** (**FILL IN 1**) button is pressed, the **SEQUENCER** returns to the measure number specified in step 3. If the **SEQUENCER RESET** button is pressed again, the **SEQUENCER** returns to measure 1.
- If CYCLE is selected and the ∨ button is pressed to select OFF, cycle playback is not activated.
- To return to the SEQUENCER PLAY display, press the **EXIT** button.
- Cycle playback can also be specified on the SEQUENCER PLAY display whenever the CYCLE: ON indication is shown.

MEDLEY

Multiple recorded songs can be played back in a medley.

1. On the SEQUENCER PLAY display, press the MEDLEY button.
- The display looks similar to the following.



2. Specify the order of songs in the medley.
- If ALL is pressed, all the files are selected, and the songs are played back in order in a medley. If ALL is pressed again, the files are deselected.
- You can use the ▲ and ▼ buttons to select a song to add to the song list, then press the ADD button to add it to the list. Repeat these steps to create your own list of songs to have played back. A M01, M02 etc. next to the file name indicates its order in the list.
- You can delete a marked file from the medley song list by selecting it and pressing the ADD button.
- Use the LOOP button to specify ON or OFF for repeat playback of the medley.

3. Press the START button.
- During medley playback, you can use the SKIP button to skip to the next song.

Naming

Here is the way to assign a name to your recorded song.

1. On the SEQ MENU display, select NAMING.
- You can also access this display from the CREATE MENU display.
- The display looks similar to the following.

2. Assign a name to the song.
- Use the POSITION buttons to highlight the character position in the name box. Use the ◀, ▲, ▼, ▶ buttons to select the alphanumeric character. Repeat these steps to type the whole name.
- Press the ABC button to switch to the screen for upper case (capital) letters, or the abc button to switch to the screen for lower case letters.
- Use the !#$ button to switch to the symbols character set.
- Use the INS button to type a space.
- Use the DEL button to erase a character.
- To erase all the characters, press the CLR button.
- You can press the →← button if you wish to have the name centered.

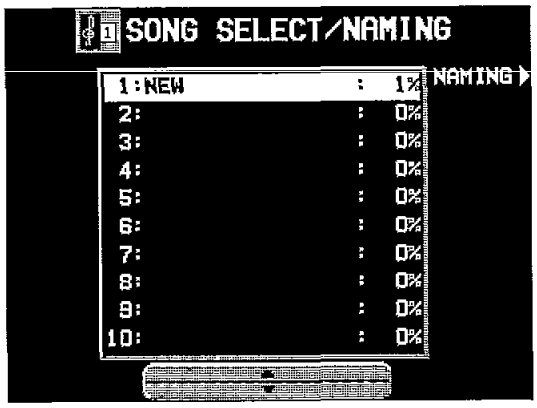
3. Press the OK button.

Song Select

You can select a desired song from the list of recorded songs.

1. On the SEQ MENU display, select CREATE.

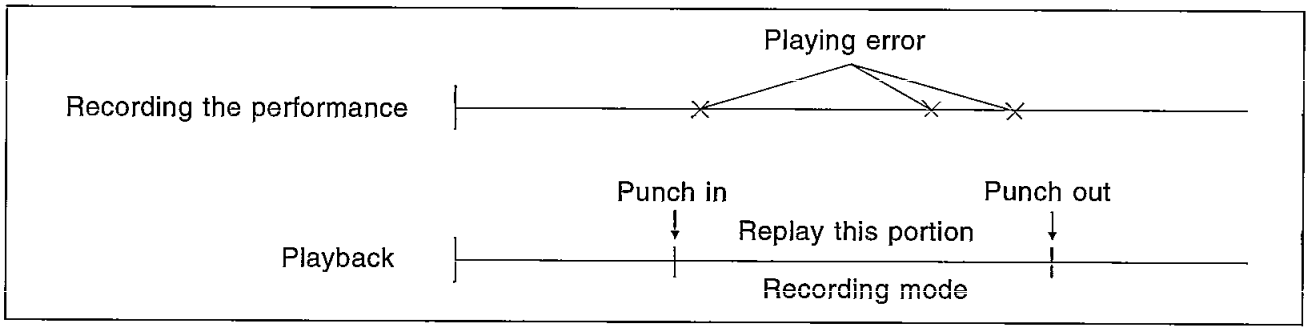
2. On the CREATE MENU display, select SONG SELECT.
- The display looks similar to the following.



3. Use the ▲ and ▼ buttons to select a song.
- The total amount of memory used for the current song is shown as a percentage (%) to the right of the song name.
- If the NAMING button is pressed, the NAMING display appears.
- To optimize memory, songs you do not wish to preserve should be deleted. (Refer to page 93.)

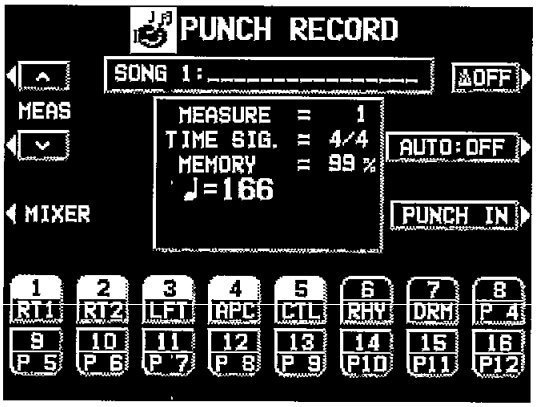
Punch Record

If you make a playing error during REALTIME RECORD or would like to change the recording for some other reason, you can use the punch recording feature to correct a selected portion of the performance without having to redo the whole part.



1. On the SEQ MENU display, use the SONG ∧ and ∨ buttons to select the song number. Then select CREATE.

2. On the CREATE MENU display, select PUNCH RECORD.
- The display looks similar to the following.



3. Select the track which contains the portion you want to correct.
- You cannot select a track in which no data is stored.
- On the display "REC" indicates tracks which are being recorded, and "PLAY" indicates tracks which are being played back.

4. Use the MEAS ∧ and ∨ buttons to specify the beginning measure of playback.
- "MEASURE=" indicates the current measure number.

5. Press the **START/STOP** button to begin playback of the specified track.

6. During playback, press the PUNCH IN button at the point you want to begin recording.
- Recording begins as soon as the PUNCH IN button is pressed. Begin playing at this point.
- The REC indication changes to the PUNCH indication.
- The PUNCH IN button switches to the REC STOP button.

7. Press the REC STOP button at the point you want to stop recording.
- Punch recording stops immediately.

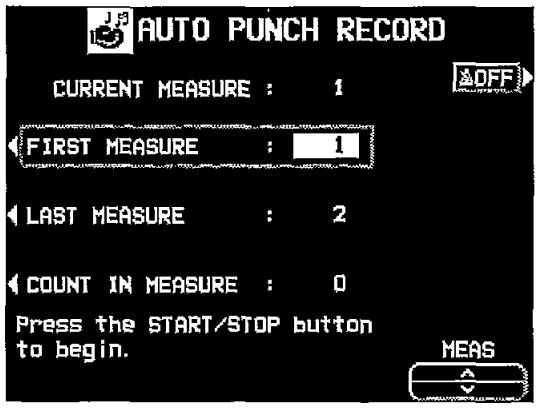
- You can also begin punch-in recording by playing the keyboard.
- You can specify the punch-in/punch-out points with the optional Foot Switch (sold separately). (Refer to page 162.)

■ AUTO PUNCH RECORD

You can also set the punch-in and punch-out points beforehand, so that recording automatically begins and ends at the specified points.

1. On the SEQ MENU display, select PUNCH RECORD. Specify the track you wish to correct.

2. Press the AUTO: OFF button.
- *The display looks similar to the following.*

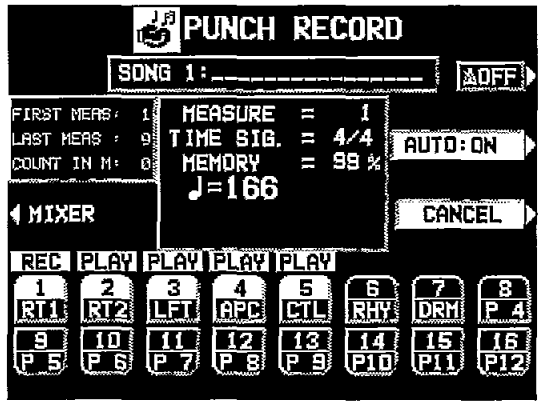


3. Select FIRST MEASURE. Use the MEAS ∧ and ∨ buttons to specify the number of the punch-in measure.

4. Select LAST MEASURE. Use the MEAS ∧ and ∨ buttons to specify the number of the punch-out measure.
- The number of the LAST measure must be higher than the number of the FIRST measure.
- The specified measure is recorded.

5. Select MEASURE COUNT IN. Use the MEAS ∧ and ∨ buttons to specify the number of lead-in measures you wish to have played back before the punch-in measure.
- Set the metronome to on or off with the ON or OFF button.

6. Press the **EXIT** button.
- The display changes to the PUNCH RECORD display.



7. Press the **START/STOP** button.
- Playback begins from the measure indicated by CURRENT MEASURE on the display.
- Pertinent information, such as the FIRST MEASURE, is shown in the left section of the display.

8. Correct the performance.
- The mode changes automatically to the recording mode at the specified FIRST measure. Begin playing at this point. The mode automatically changes back to the playback mode at the specified LAST measure.
- To discontinue punch recording in the middle, press the CANCEL button. In this case, the recorded contents up to that point are erased.

Step Record

STEP RECORD is simply a method of making a tune by storing the sounds note-by-note on the display. Instead of playing the keyboard directly as in the REALTIME RECORD mode, you can take your time to input each single note. This is an especially effective method for storing complicated passages that are difficult to play or when the exact timing of a part is critical.

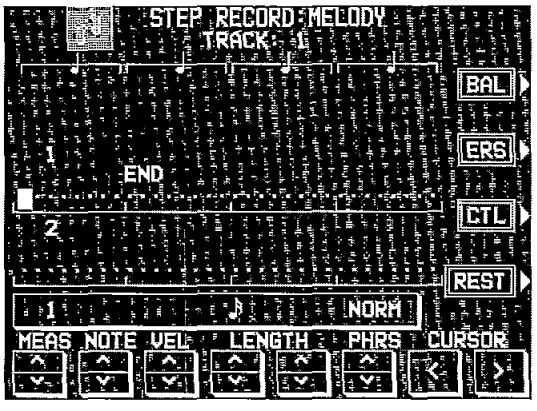
Recording procedure

Record the keyboard performance and panel changes.

1. On the SEQ MENU display, use the SONG ∧ and ∨ buttons to select the song number. Then select CREATE.

2. On the CREATE MENU display, select STEP RECORD.
- The display changes to the PART SELECT display.

3. Use the balance buttons below the display to specify the track for the part you are going to record (only one track can be selected at a time).
- Use the upper buttons to select tracks 1 to 8, and the lower buttons to select tracks 9 to 16.
- The display changes to the STEP RECORD input display similar to the following.



- If you selected the track to which the CHORD part has been assigned, the display changes to the STEP RECORD: CHORD display. (Refer to page 87.)
- If you selected the track to which the RHYTHM part has been assigned, the display changes to the STEP RECORD: RHYTHM display. (Refer to page 89.)
- If you selected the track to which the CONTROL part has been assigned, the display changes to the STEP RECORD: CONTROL display.

4. Use the MEAS ∧ and ∨ buttons to select the measure.
- This step is not necessary if you are recording from measure 1 of a blank track.

5. Use the CURSOR < and > buttons to move the cursor to the note position (dot) you are going to store.
- Each dot represents one-eighth of a quarter-note (a thirty-second note).
- When storing triplets, it may not be possible to match the timing exactly with the 1/32-note steps. However, if you select triplet-type notes for the note length (LENGTH) in step 6 below, the timing is automatically corrected.

6. Use the left LENGTH ∧ and ∨ buttons to specify the note value. Select from $\mathfrak{3}_3$, $\mathfrak{3}$, $\mathfrak{3}_3$, $\mathfrak{3}$, $\mathfrak{3}_3$, $\mathfrak{3}$, $\mathfrak{3}_3$, $\mathfrak{3}$, $\mathfrak{3}$, $\mathfrak{3}$, $\mathfrak{3}$, $\mathfrak{3}$ × 2 to 4. (A 3 denotes a triplet-type note.)
- For note values other than these, use the right LENGTH buttons to specify the note value to be added to that which you specified with the left buttons.

Example: To record a dotted quarter-note (♩.)
♩ + ♪

7. Use the PHRS ∧ and ∨ buttons to specify the actual length of the produced sound for the desired legato or staccato effect.

TENU (tenuto): Sound is produced for 95% of the note length. NORM (normal): 80% STAC (staccato): 50% CUTT (cutting): 25%

8. Specify the pitch and velocity of the note by playing the keyboard.
- The dot on the display where the note is stored changes to a * mark.
- When recording chords, you can store multiple notes at one position.
- Any panel setting changes—for example changes in the sound selection, button operation, wheel operation, etc.—are recorded at the cursor position.
- When a wheel or dial is operated, the input value is indicated on the display. Confirm that this is the correct value and press the YES button to record the value or the NO button to cancel it.

REST:
To store a rest, after specifying the note LENGTH, press the REST button.
- Positions at which nothing is stored are read as rests.

ERS:
If you make a mistake, move the cursor to the error, and after displaying the data you wish to erase, press the ERS button.

BAL:
To specify the volume at the cursor position, after pressing the BAL button, use the VALUE buttons to set the volume (0 to 127).

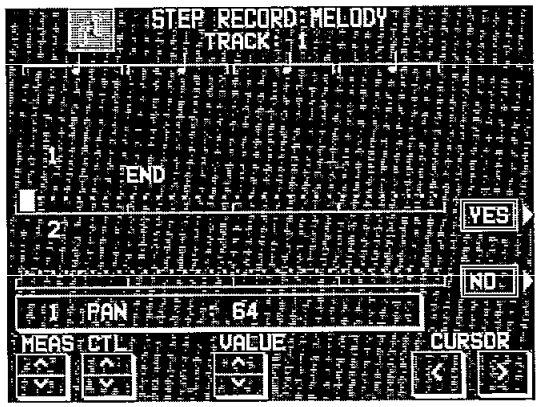
9. Repeat steps 5 through 8 to continue storing notes.
- To input data on another track, press the button for the desired track and repeat the procedure from step 2.

10. When you have finished recording, press the **PROGRAM MENUS** button to turn it off.

■ Storing control data

Various control data can be stored at the cursor position.

1. On the STEP RECORD: MELODY display, press the CTL button.
- The display looks similar to the following.



2. Use the CTL ∧ and ∨ buttons to select the control data you wish to insert.
- Select from PAN, KEY SHIFT (COARSE TUNE), TUNING (FINE TUNE), BEND SENS.

3. Use the VALUE ∧ and ∨ buttons to adjust the numerical value of the setting.

4. Press YES button.

■ Correcting the data

1. In the STEP RECORD mode, specify the track you wish to correct.

2. Use the MEAS buttons to go to the measure you wish to modify. Use the CURSOR buttons to move the cursor to the point (*) you wish to edit.
- The data stored at that point is shown on the display.
- When multiple data is stored at one point, different data is displayed in order each time a CURSOR button is pressed. When a chord is recorded, a different note in the chord is displayed each time a CURSOR button is pressed.

3. Correct the data.

There are three types of data:

Performance data
NOTE data (note pitch) and VEL data (how hard the key was played), etc. are displayed. Use the relevant buttons to correct the data as desired.

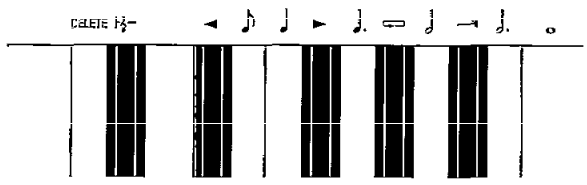
Sound data
The name of the sound is displayed. Change the sound as desired (the sound setting display is interposed on the current display).

Control data
The name of the function is displayed. Change the data as desired.

- Press the ERS button to erase the data which is displayed.
- You can also correct data which was stored in the REALTIME RECORD mode.
- Performance (NOTE) data can be recorded or edited on a piano roll display, and there is also a specialized display for recording and editing the DRUMS part data. (Refer to page 94.)

Store a chord progression

Store the chord progression for the **AUTO PLAY CHORD** in the track for the CHORD part. Then, when the **AUTO PLAY CHORD** is used during playback, even if you do not specify the chords with your left hand, the chords change automatically.
- The chord length is specified with the **CHORD STEP RECORD** keys on the keyboard.



Note value keys
- 𝅝 Whole note
- 𝅗𝅥. Dotted half-note
- 𝅗𝅥 Half-note
- ♩. Dotted quarter-note
- ♩ Quarter-note
- ♪ Eighth-note

Reset key
- 𝄋– Press to begin storing from the beginning.

Correction keys
- ◀ Move back one step.
- ▶ Move forward one step.

Repeat key
- ⮌ Press to end the chord-storing procedure and to specify automatic repeat playback of the stored progression.

End key
- —H Press after the whole chord progression has been stored.

DELETE key
- DELETE Press to erase data.
- To erase all the data from the current track, while pressing the **DELETE** key, press the End key (—H).

■ **Example of storing a chord progression**

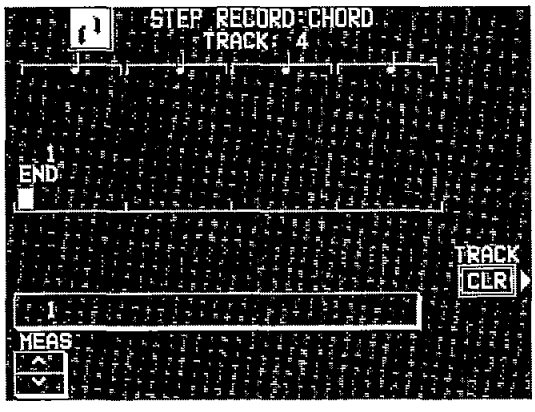
Measure 1	2	3		4	
C	C	Am	F	D7	G7
𝅝	𝅝	𝅗𝅥	𝅗𝅥	𝅗𝅥	𝅗𝅥

1. On the SEQ MENU display, use the SONG ∧ and ∨ buttons to select the song number. Then select CREATE.

2. On the CREATE MENU display, select STEP RECORD.
- The display changes to the PART SELECT display.

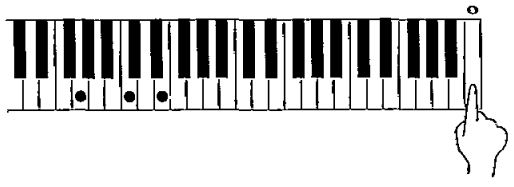
3. Using the balance buttons below the display, select the track to which the CHORD (CHD/APC) part has been assigned.

- The display changes to the STEP RECORD: CHORD input display similar to the following.



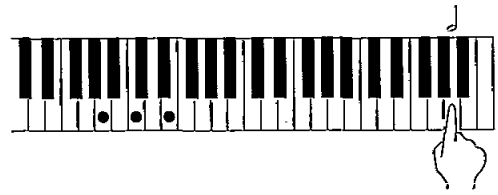
4. *Store the chords.*

<Measure 1, measure 2>
While playing a C chord with your left hand, press the 𝅝 key one time with your right hand.



- A "beep" tone indicates that the chord has been successfully stored.
- The dot on the display where the chord is stored changes to a ✳ mark and the cursor automatically moves forward, in accordance with the specified note value, to the next unrecorded position. The chord name is shown on the display.

<Measure 3>
(1) While playing an Am chord, press the 𝅗𝅥 key one time.



(2) While playing an F chord, press the 𝅗𝅥 key one time.

<Measure 4>
(1) While playing a D7 chord, press the 𝅗𝅥 key one time.

(2) While playing a G7 chord, press the 𝅗𝅥 key one time.
- You can press the **INTRO & ENDING** button or a **FILL IN** button on the panel to store the desired pattern at the cursor position. (An **INTRO** or **COUNT INTRO** can be stored only at the beginning.)
- Store a rest by pressing a note value key without specifying a chord.

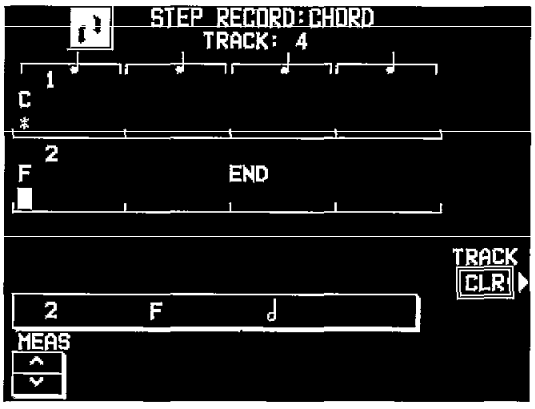
5. At the end of the chord progression, press the End key (—𝍪).
- The Keyboard exits the recording mode.
- During playback, playback of the recorded chord progression stops at this point. For automatic repeat playback of the chord progression, press the Repeat key (⊂⊃) instead of the End key (—𝍪).

- When you play back the track for the CHORD part, the chords of the automatic accompaniment change in accordance with the stored chord progression.
- To specify chords by the ONE FINGER mode, select the ONE FINGER mode before entering the STEP RECORD mode.
- If the ON BASS button is on, chords such as "C on G" can also be specified (except in the ONE FINGER mode).
- The **CHORD FINDER** feature, which shows you how to finger a specified chord, is available. (Refer to page 61.)

■ Correct the recorded chord progression

1. Follow the procedure to select the STEP RECORD: CHORD display.

2. Use the MEAS buttons to go to the measure you wish to modify. Use the ◀ and ▶ Correction keys to move the cursor to the point (*) you wish to edit.



- The lengths of rests are indicated by the respective rest value × its multiplier.

  Example:
  𝄽 ..... 1-beat rest (quarter rest)
  𝄾 ..... 1/2-beat rest (eighth rest)
  𝄽 × 1 + 𝄾 .... 1-1/2-beat rest (dotted quarter rest)
  𝄽 × 10..... 10-beat rest

- To go to the end of the chord progression, while pressing the Reset key (𝄞), press the ◀ key.

3. Correct the chord data.

Chord data
When the chord name is displayed at the cursor position, you can press the **DELETE** key to erase the data and then store a new chord.
- If you do not erase the displayed data before entering new chord data, the new data is inserted at this point, and the displayed data is merely shifted by the note value of the new chord.
- Rests can also be erased. Each time the **DELETE** key is pressed, the rest is erased in units of 𝄽 × 1. The 𝄾 rest is erased last.
- If you wish to cancel the REPEAT, enter an END command.

Control data
The name of the stored function (INTRO, FILL, etc.) is displayed. You can press the **DELETE** key to erase the data which is displayed.

■ TRACK CLEAR

To erase all data from the current track, press the CLR button, and then press the YES button on the confirmation display.
- If you wish to cancel the clear procedure, press the NO button.

Store a rhythm progression

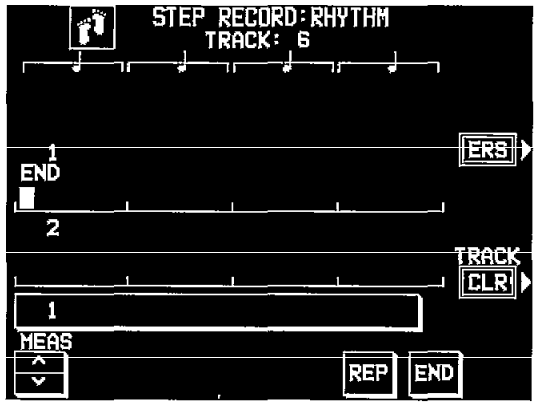
Changes in the rhythm selection and tempo, as well as the intro, fill-ins and the ending, can be stored by measures with the step recording method.

1. On the SEQ MENU display, use the SONG ∧ and ∨ buttons to select the song number. Then select CREATE.

2. On the CREATE MENU display, select STEP RECORD.
- The display changes to the PART SELECT display.

3. Using the balance buttons below the display, select the track to which the RHYTHM (RHY) part has been assigned.

- The display changes to the STEP RECORD: RHYTHM input display similar to the following.



4. Use the MEAS ∧ and ∨ buttons to go to the measure you wish to record.

5. Store the rhythm data.
- Data which can be stored:
  START/STOP
  Changes in the rhythm selection
  COUNT INTRO, INTRO, FILL IN, ENDING
  Tempo changes
- Be sure to store the **START/STOP** data in the measure in which the rhythm starts or stops.
- If you are storing a **COUNT INTRO** or **INTRO**, store this data before the **START/STOP** data.
- If the tempo is changed, the display changes to the confirmation display. After specifying the desired tempo, Press the YES button to store the specified tempo, or press the NO button to cancel the new tempo value.

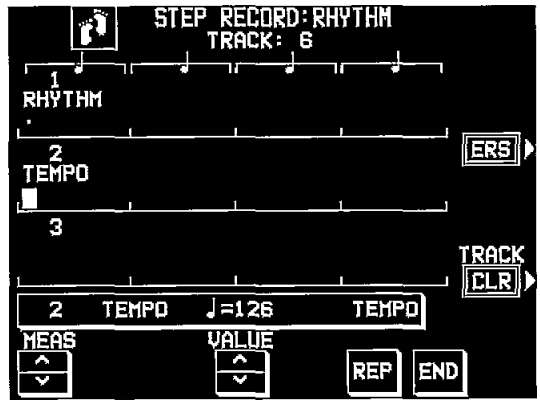
6. Repeat steps 4 and 5 to continue storing the rhythm progression.

7. At the end of the rhythm progression, press the END button.
- If the REP button is pressed instead of the END button, during playback the recorded rhythm progression is repeated.
- The Keyboard exits the recording mode.

■ **Correct the recorded rhythm progression**

1. Follow the procedure to select the STEP RECORD: RHYTHM display.

2. Use the MEAS buttons to go to the measure you wish to modify. (The * is highlighted.)



3. Correct the rhythm data.
- Press the ERS button to erase data at the cursor position.
- If you wish to cancel the REPEAT, enter an END command.
- If you select a rhythm with a different time signature, the time signature of all subsequent measures will also change.
- If data has already been recorded in other tracks, you cannot select a rhythm with a different time signature.

■ **TRACK CLEAR**

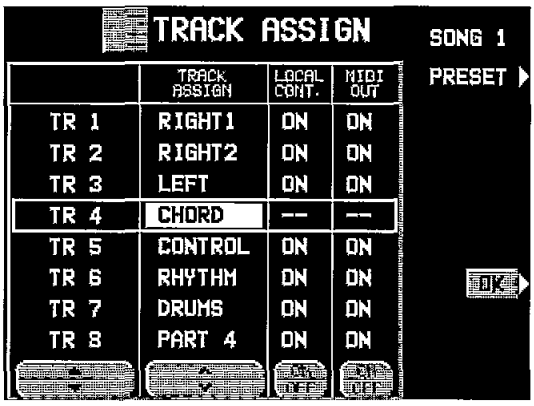
To erase all data from the current track, press the CLR button, and then press the YES button on the confirmation display.
- If you wish to cancel the clear procedure, press the NO button.

Track Assign

Each **SEQUENCER** part is already assigned to a track number. However, you can use the TRACK ASSIGN function to assign parts to tracks as you wish.

1. On the SEQ MENU display, use the SONG ∧ and ∨ buttons to select the song number. Then select CREATE.

2. On the CREATE MENU display, select TRACK ASSIGN.
- The display looks similar to the following.



3. Use the TR ▲ and ▼ buttons to select the track.

4. Use the TRACK ASSIGN ∧ and ∨ buttons to select the part for the specified track.
- When a part other than the CONTROL, APC, CHORD or RHYTHM part is assigned, the track assign procedure is completed at this point.
- Either the CHORD part or APC part can be assigned to a track, but not both.
- The CONTROL, APC, CHORD and RHYTHM parts cannot be assigned to more than one track.
- You can use the ON and OFF buttons for LOCAL CONT. to specify whether or not the sound of the part assigned to this track is generated. Because no sound is generated for this instrument's parts assigned to tracks set to OFF through this procedure, use this setting to generate sound from an external sound source through the MIDI connectors.
- You can use the MIDI OUT ON and OFF buttons to specify whether or not the data of the part assigned to this track is sent as MIDI data. When set to OFF, the data is not sent, even if MIDI equipment is connected.

5. When assigning the CONTROL, APC, CHORD or RHYTHM part, press the OK button.
- The confirmation display appears. Press the YES button to confirm that you wish to execute the specified track assignment. Or press NO to stop the track assignment.

■ TRACK ASSIGN PRESETS

A preset track assignment can be selected.

1. On the TRACK ASSIGN display, press the PRESET button.
- The display looks similar to the following.

2. Use the SONG ∧ and ∨ buttons to select the song number for which the preset track assignment will be effective.
- If ALL is selected, the track assignment is effective for all the songs.

3. Select the track assign mode.

INITIAL:
Factory-preset settings.
TECHNICS MULTI RECORDING:
The optimum track assignment for multiplex recording.
GM MULTI RECORDING:
The optimum track assignment for creating GENERAL MIDI data.

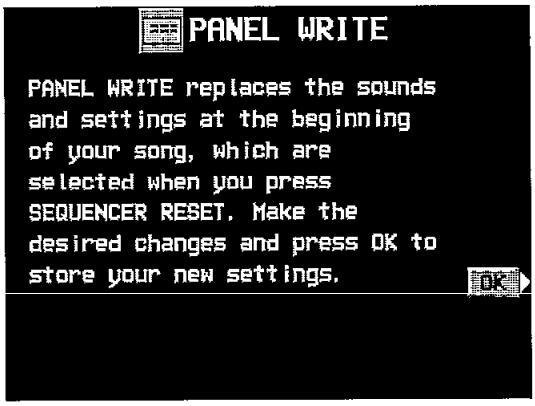
4. Press the OK button.
- A confirmation display will appear when the arrangement of sounds changes, for example by switching to GM MULTI RECORDING. Press the YES button to confirm that you wish to execute the procedure, or press the NO button to cancel the procedure.
- "COMPLETED!" is shown on the display and the selected track assign mode is enabled.
- You can confirm the track assignment settings on the TRACK ASSIGN display.

Panel Write

You can change the panel status which is in effect at the beginning of the song. These are the settings which are recalled when the **SEQUENCER RESET** button is pressed.

1. Use the panel buttons to change to the desired panel settings.

2. On the SEQ MENU display, use the SONG ∧ and ∨ buttons to select the song number. Then select PANEL WRITE.
- The display looks similar to the following.
- You can also access this display from the CREATE MENU display.


PANEL WRITE
PANEL WRITE replaces the sounds and settings at the beginning of your song, which are selected when you press SEQUENCER RESET. Make the desired changes and press OK to store your new settings.
OK

3. Press the OK button.
- "COMPLETED!" is shown on the display.

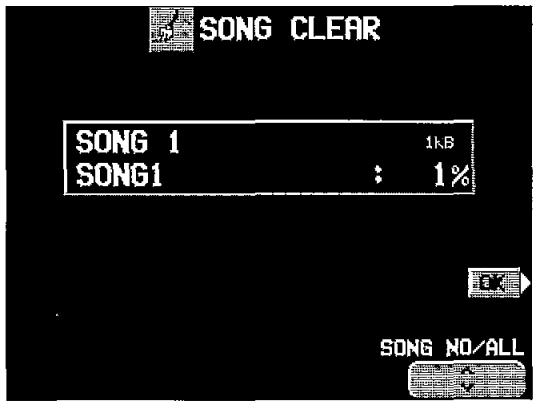
- PANEL WRITE is automatically activated at the when you start to record, or when a panel setting is changed during recording stop.
- There is also a button on the SEQUENCER display that allows you to access this function.
- For rhythm data, the data in the RHYTHM part has priority.

Song Clear

Erase the recorded contents of all tracks.

1. On the SEQ MENU display, select CREATE or EDIT.

2. On the CREATE or EDIT MENU display, select SONG CLEAR.
- The display looks similar to the following.



3. Use the SONG NO/ALL ∧ and ∨ buttons to specify the number of the song to erase.
- The total amount of **SEQUENCER** memory or current song memory used is shown as a percentage (%) to the right of the song name.
- If ALL is selected, all the songs recorded in the **SEQUENCER** will be erased.

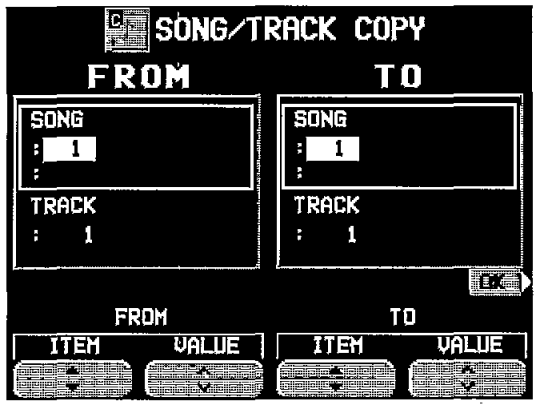
4. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
- If the YES button is pressed, "COMPLETED!" appears on the display, the specified songs are erased.

Song/track Copy

Copy the recorded data from specific tracks of a song.

1. On the SEQ MENU display, select CREATE or EDIT.

2. On the CREATE or EDIT MENU display, select SONG/TRACK COPY.
- The display looks similar to the following.



3. Specify the track you wish to copy from.
- On the FROM side, use the ITEM ▲ and ▼ buttons to select the item, and the VALUE ∧ and ∨ buttons to specify the setting.
  SONG: Song number
  TRACK: Track number
- If ALL is selected, all the tracks of the specified song number will be copied.

4. Specify the track you wish to copy to (TO side).

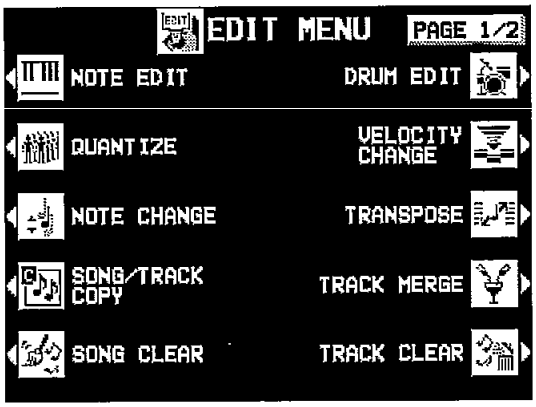
5. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
- The track assignment settings are also copied. Note that in some cases, the CONTROL, RHYTHM and CHORD part data in the destination tracks may be lost.

Editing the recorded performance

The edit feature allows you to erase or change portions of your performance after it has been recorded.

Select the edit function

1. On the SEQ MENU display, use the SONG ∧ and ∨ buttons to select the number of the song you wish to edit. Then select EDIT.
- The display looks similar to the following.



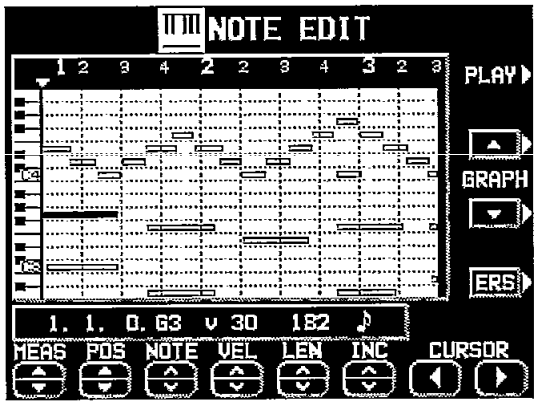
2. On the EDIT MENU display, select an edit function.
- Use the **PAGE** ∧ and ∨ buttons to view different sections of the menu.

3. Perform the editing procedures. (See below.)
- During the editing procedure, if the indicator for the **TEMPO/PROGRAM** is lit, you can use the **TEMPO/PROGRAM** for the editing function.

NOTE EDIT

You can edit performance (NOTE) data on a piano roll display. This differs from the normal STEP RECORD edit procedure, and is a convenient way to check the data for each note.
- Data other than NOTE data cannot be corrected or recorded. To correct or record other types of data, use the STEP RECORD display. (Refer to page 85.)

1. On the PART SELECT display, select a track.
- The CHORD, RHYTHM and CONTROL tracks cannot be selected.
- The display looks similar to the following.



2. Use the MEAS ∧ and ∨ buttons to select the measure you wish to edit.

3. Use the CURSOR ◀ and ▶ buttons to move the cursor (▼) to the point you wish to edit.
- Recorded performance (NOTE) data is shown as horizontal bars. Data selected for editing is highlighted.
- You can use the INC ∧ and ∨ buttons to change the increment of cursor movement. The resolution can be set at ♩/96. However, if NOTE data is present between increments, the cursor will stop.
- Use the POS ▲ and ▼ buttons to change the value.
  Example: 10.2.48 indicates a point in measure 10, beat 2, point 48 (one point is 1/96 of a quarter note [♩]).
- ⌐ is shown at the point where the END command is stored.

4. Select the data to edit (it changes to a highlighted horizontal bar). Edit the data.
- Use the POS ▲ and ▼ buttons to move the cursor, the NOTE ∧ and ∨ buttons to change the note number, the VEL ∧ and ∨ buttons to change the velocity (how hard the keys are played), and the LEN ∧ and ∨ buttons to change the note length (1 = 1/96 of a quarter note [♩]).
- Use the GRAPH ▲ and ▼ buttons to view a higher or lower section of the keyboard (in one-octave steps).
- If the ERS button is pressed, the selected NOTE data is erased.

5. Repeat steps 2 to 4 to continue editing.

■ Inserting note data

You can also store note data on this display.

1. Specify the point where the new note data will be stored.

2. Use the LEN ∧ and ∨ buttons to specify the note length.
- Examples of note lengths (♩ = 96)
  91: tenuto (95%)
  76: normal (80%)
  48: staccato (50%)
  24: cutting (25%)

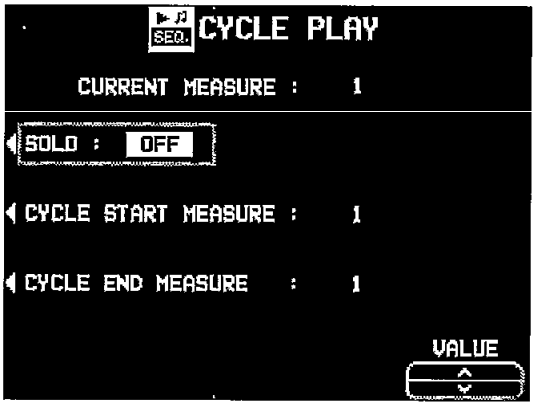
3. Play a key on the keyboard to specify the note pitch (NOTE NUMBER) and velocity (how hard the key is played).

4. Repeat steps 1 to 3 to input more note data.

■ CYCLE PLAY

You can aurally check the data you are editing by accessing the CYCLE PLAY display from the NOTE EDIT display.
- If you wish other tracks to be played back, they should be selected beforehand on the SEQUENCER PLAY display. (Refer to page 80.)

1. On the NOTE EDIT display, press the PLAY button.
- The display looks similar to the following.



2. Select CYCLE START MEASURE, and use the VALUE ∧ and ∨ buttons to select the beginning playback measure.

3. Select CYCLE END MEASURE, and use the VALUE ∧ and ∨ buttons to select the last playback measure.

4. Press the **START/STOP** button.
- Cycle playback of the specified measures begins.
- If the SOLO button is turned ON, playback changes to that of the recording track only. If it is turned OFF, all the tracks specified on the SEQUENCER PLAY display are played back.

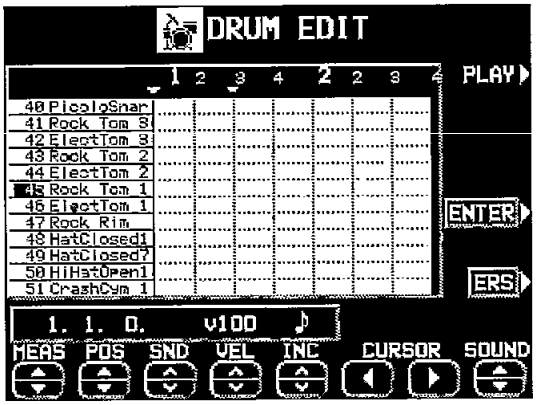
5. To stop cycle playback, press the **START/STOP** button again.

- During playback stop, if the **SEQUENCER RESET** (**FILL IN 1**) button is pressed, the **SEQUENCER** returns to the measure number specified in step 2. If the **SEQUENCER RESET** button is pressed again, the **SEQUENCER** returns to measure 1.

DRUM EDIT

The DRUMS part can be edited on a specialized display. This differs from the normal STEP RECORD edit procedure, and is a convenient way to check the data for each note.

1. On the PART SELECT display, select the track for the DRUMS part.
- The CHORD, RHYTHM and CONTROL tracks cannot be selected.
- The display looks similar to the following.



2. Use the SOUND ▲ and ▼ buttons to select the percussion instrument you wish to edit.
- The number to the left of the instrument name is its MIDI NOTE NUMBER in the Technics arrangement.
- If sounds other than percussion instrument sounds are assigned, they are not displayed.

3. Use the MEAS ▲ and ▼ buttons to select the measure you wish to edit.

4. Use the CURSOR ◀ and ▶ buttons to move the cursor (▼) to the point you wish to edit.
- Recorded performance data is shown as vertical bars. Data selected for editing is shown as a longer vertical bar.
- You can use the INC ∧ and ∨ buttons to change the increment of cursor movement. The resolution can be set at ♩/96. However, if NOTE data is present between increments, the cursor will stop.
- Use the POS ∧ and ∨ buttons to change the value.
  Example: 10.2.48 indicates a point in measure 10, beat 2, point 48 (one point is 1/96 of a quarter note [♩]).
- ⊣ is shown at the point where the END command is stored.

5. Select the data to edit (it changes to a long bar). Edit the data.
- Use the POS ▲ and ▼ buttons to move the cursor, the SND ∧ and ∨ buttons to change the percussion instrument sound, and the VEL ∧ and ∨ buttons to change the velocity (how hard the keys are played).
- If the ERS button is pressed, the selected NOTE data is erased.

6. Repeat steps 2 to 5 to continue editing.

■ Inserting DRUMS data

You can also store DRUMS data on this display.

1. Specify the point where the new note data will be stored.

2. Use the VEL ∧ and ∨ buttons to specify the velocity (how hard the key is played).

3. Press the ENTER button to store the data.
- Instead of the ENTER button, you can store data (including velocity data) by playing the keyboard. In this case, the instrument is that specified on the display, regardless of which key is played.

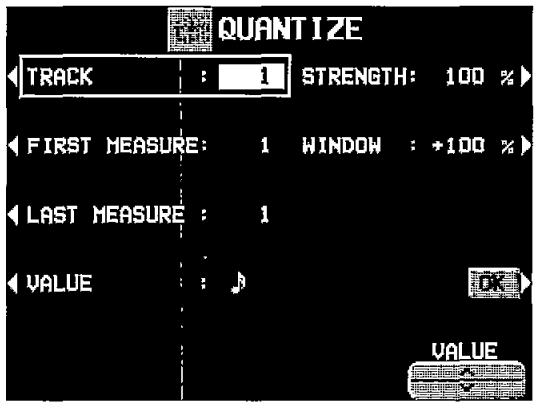
4. Repeat steps 1 to 3 to input more DRUMS data.

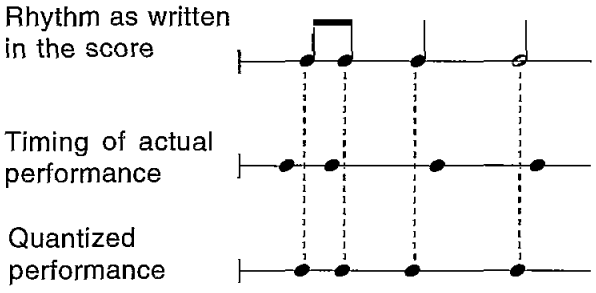
■ CYCLE PLAY

You can aurally check the data you are editing by accessing the CYCLE PLAY display from the DRUM EDIT display.
- The procedure is the same as for NOTE EDIT.
- If you wish other tracks to be played back, they should be selected beforehand on the SEQUENCER PLAY display. (Refer to page 80.)

QUANTIZE

The QUANTIZE function can correct the timing of your performance after it has been recorded. If the rhythm is slightly out of sync or inexact, it will automatically be corrected to the specified quantize level.





1. Select TRACK. Use the ∧ and ∨ buttons to specify the track number.
- You cannot select the track for the CONTROL, RHYTHM or CHORD part.
- If ALL is selected, all the tracks are quantized.

2. Select FIRST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the start point (measure number).

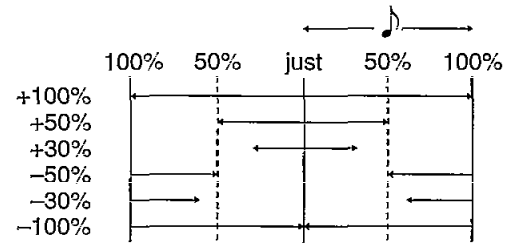
3. Select LAST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the end point (measure number).

4. Select VALUE. Use the VALUE ∧ and ∨ buttons to specify the quantize level.
- Select from ♩, ♪, ♪3, 𝅘𝅥𝅯, 𝅘𝅥𝅯3, 𝅘𝅥𝅰, 𝅘𝅥𝅰3. (A 3 denotes a triplet-type note.)

5. Select STRENGTH. Use the VALUE ∧ and ∨ buttons to select the amount of quantize (%).
- 100% is a convenient setting. When set to 100%, the performance data is quantized exactly to the level specified for the VALUE ("just"). For example, at 50%, the data is quantized to a point that is half that of the just level. By this setting, you can attain an effect that is very slightly off-beat from the rhythm.

6. Select WINDOW. Use the VALUE ∧ and ∨ buttons to specify the range (%) affected by the quantize setting.
- With the increment set to 100 for the VALUE, at a + setting, data close to the just point is corrected, and at a – setting, data far from the just point is corrected. For example, if set to –30% the quantize function affects data far from the just point, and if set to +30% the quantize function affects data close to the just point. +100% is usually a convenient setting.
- The +100% setting and the –100% setting are the same.

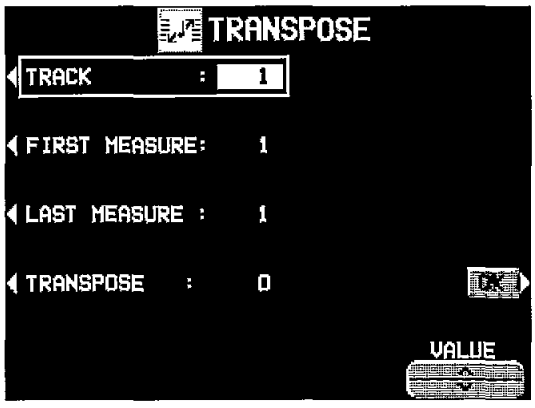
Example: When VALUE is set to ♩



7. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

TRANSPOSE

Change of key of specific measures of specific tracks.



1. Select TRACK. Use the VALUE ∧ and ∨ buttons to select the track you wish to edit.
- You cannot select the track for the CONTROL, RHYTHM or CHORD part.
- If ALL is selected, all tracks will be edited.

2. Select FIRST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the start point (measure number) of the transpose.

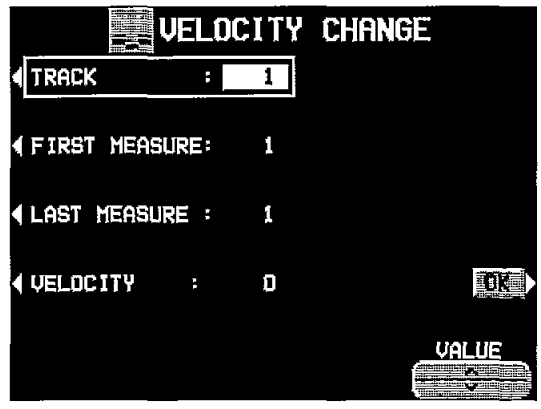
3. Select LAST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the end point (measure number) of the transpose.

4. Select TRANSPOSE. Use the VALUE ∧ and ∨ buttons to specify the change in pitch.
- Increments are in semitones. A value of 12 is one octave. A – value lowers the pitch, and a + value raises it.

5. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

VELOCITY CHANGE

Modify the recorded velocity in specific measures of specific tracks.



1. Select TRACK. Use the ∧ and ∨ buttons to select the track you wish to edit.
- You cannot select the track for the CONTROL, RHYTHM or CHORD part.
- If ALL is selected, all tracks will be edited.

2. Select FIRST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the start point (measure number) of the velocity change.

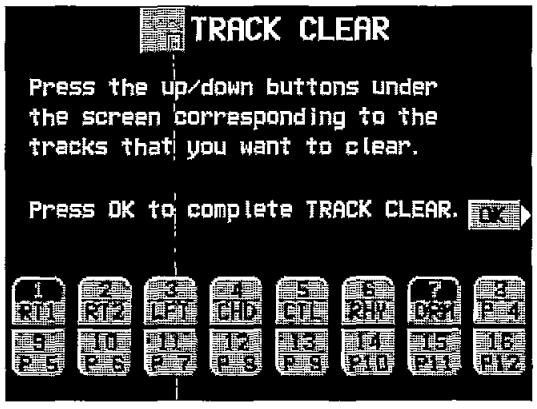
3. Select LAST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the end point (measure number) of the velocity change.

4. Select VELOCITY. Use the VALUE ∧ and ∨ buttons to specify the change in velocity.
- The value you select will be added to or deleted from the current velocity.

5. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

TRACK CLEAR

Erase the contents of a specific track.



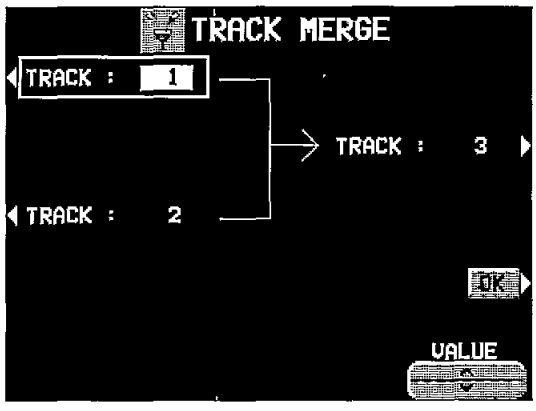
1. Use the balance buttons to select the track or tracks you wish to clear.
- A "CLR" mark is shown for the selected tracks.

2. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
- If the YES button is pressed, the specified tracks are erased.

TRACK MERGE

Merge the recorded contents of two tracks (source tracks) and store the merged contents in a third track (destination track).

- When the TRACK MERGE function is executed, the data is erased from the two source tracks.



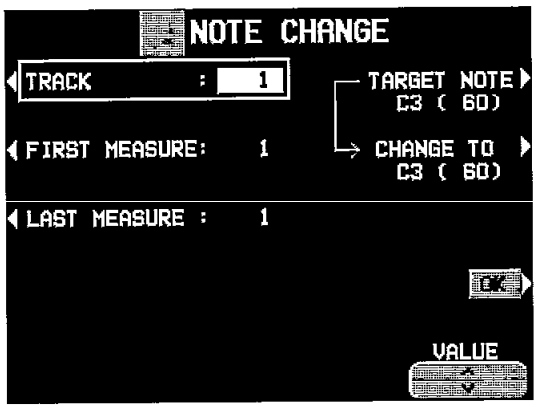
1. Select the two source tracks (left half of the display).
- Use the buttons on the left side of the display to select one of the source tracks, and use the VALUE ∧ and ∨ buttons to specify the track number. Repeat for the other source track.
- You cannot select the track to which the CONTROL, RHYTHM or CHORD part has been assigned.
- If the part assigned to the upper source track ("upper" meaning its position on the TRACK MERGE display) is different from the part assigned to the lower source track, when the parts are merged in the destination track, the new track is assigned the same part as the upper track.

2. Select the destination track (right half of the display).
- Press the button on the right side of the display to select the destination track, and use the VALUE ∧ and ∨ buttons to specify the track number.

3. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

NOTE CHANGE

Change of pitch of specified notes.



1. Select TRACK. Use the VALUE ∧ and ∨ buttons to select the track you wish to edit.
- You cannot select the track for the CONTROL, RHYTHM or CHORD part.
- If ALL is selected, all tracks will be edited.

2. Select FIRST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the start point (measure number) of the note change.

3. Select LAST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the end point (measure number) of the note change.

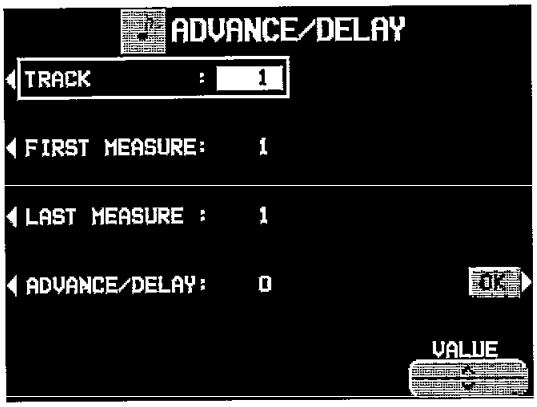
4. Select TARGET NOTE. Use the VALUE ∧ and ∨ buttons to specify the pitch of the note you wish to change.
- The number next to the note name is its note number.

5. Select CHANGE TO. Use the VALUE ∧ and ∨ buttons to specify the pitch you wish to change to.

6. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

ADVANCE/DELAY

Speed up or delay the sound production of specified performance data.



1. Select TRACK. Use the VALUE ∧ and ∨ buttons to select the track you wish to edit.
- You cannot select the track for the CONTROL, RHYTHM or CHORD part.
- If ALL is selected, all tracks will be edited.

2. Select FIRST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the start point (measure number) of the change.

3. Select LAST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the end point (measure number) of the change.

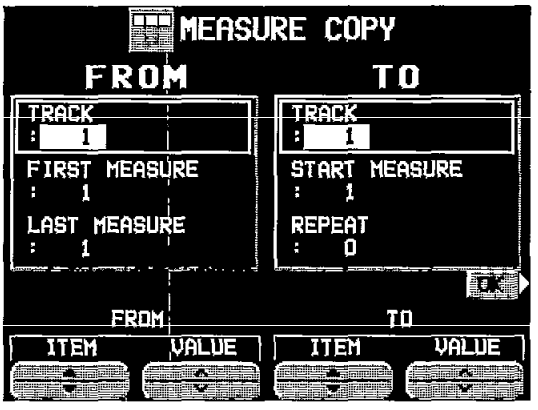
4. Select ADVANCE/DELAY. Use the VALUE ∧ and ∨ buttons to accelerate or delay the timing of the sound production (–96 to +96).
- A + value causes the notes to sound later, and a – value causes the notes to sound earlier.

5. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

MEASURE COPY

Copy recorded data of specified measures to a specified point.

- On the destination track, the new data replaces the current measure contents.



1. Specify the measures you wish to copy from the source track.

- On the FROM side, use the ITEM ▲ and ▼ buttons to select the item. Then use the VALUE ∧ and ∨ buttons to specify the setting for that item.

TRACK:
Specify the track number you wish to copy the measures from.

- You cannot select the track for the RHYTHM part or CHORD part in which a repeat command has been stored.
- If ALL is selected, the specified measures are copied to all tracks at the same time.

FIRST MEASURE:
Specify the first measure to copy.

LAST MEASURE:
Specify the last measure to copy.

2. Specify where you wish to copy the selected measures to.

- On the TO side, use the ITEM ▲ and ▼ buttons to select the item. Then use the VALUE ∧ and ∨ buttons to specify the setting for that item.

TRACK:
Specify the track number you wish to copy to.

- Measures in a track for the CONTROL, RHYTHM or CHORD part can be copied only to the same track.

START MEASURE:
Specify the start point to copy the selected measures to.

REPEAT:
Specify the number of times the selected measures are to be repeated.

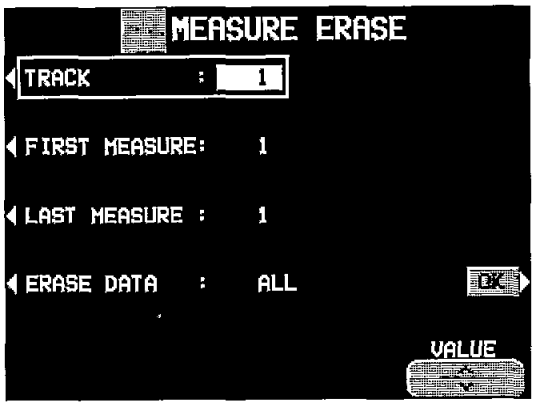
3. Press the OK button.

- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
- Note that if the END command is included in the source data, it is also copied. Any data following the END command is not copied.

MEASURE ERASE

Erase the recorded contents of specific measures. You can also specify which type of data is to be erased.

- Note that only the contents of the measures are erased, not the measures themselves; the length of the performance remains the same.



1. Select TRACK. Use the VALUE ∧ and ∨ buttons to specify the track number.
- This function does not work for the RHYTHM part or CHORD part in which a repeat command has been stored.
- If ALL is selected, data is erased from the specified measures of all the tracks at one time.

2. Select FIRST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the start point (measure number).

3. Select LAST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the end point (measure number).

4. Select ERASE DATA. Use the VALUE ∧ and ∨ buttons to specify the type of data to be erased.

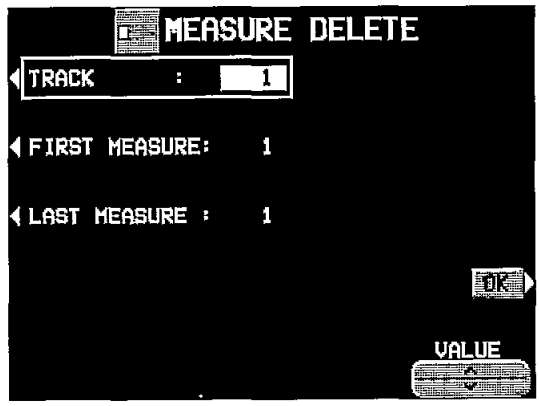
   ALL:
   All data is erased.
   NOTE:
   Only note data is erased.
   CONTROL:
   Only control data (volume, effect and other panel settings as well as selection changes) is erased.

5. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

MEASURE DELETE

Delete specified measures from a track.

- The length of the performance accordingly decreases by the number of deleted measures.



1. Select TRACK. Use the VALUE ∧ and ∨ buttons to select the track from which measures are to be deleted.
- This function does not work for the CHORD or RHYTHM track in which the repeat function has been stored.
- If ALL is selected, the specified measures are deleted from all the tracks at one time.

2. Select FIRST MEASURE. Use the VALUE ∧ and ∨ buttons, to specify the first measure to delete.

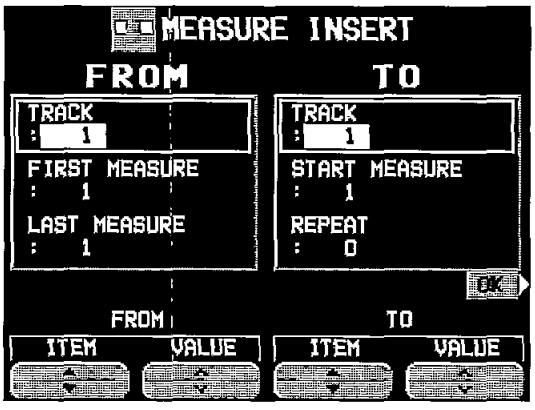
3. Select LAST MEASURE. Use the VALUE ∧ and ∨ buttons to specify the last measure to delete.

4. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.

MEASURE INSERT

Insert specified measures at a specified point.

- The length of the performance accordingly increases by the number of inserted measures.



1. Specify the measures you wish to copy from the source track.

- On the FROM side, use the ITEM ▲ and ▼ buttons to select the item. Then use the VALUE ∧ and ∨ buttons to specify the setting for that item.

TRACK:
Specify the track number you wish to copy the measures from.

- This function does not work for the CHORD or RHYTHM track in which the repeat function has been stored.
- If ALL is selected, the measures are inserted in all tracks at the same time.

FIRST MEASURE:
Specify the first measure to copy.

LAST MEASURE:
Specify the last measure to copy.

2. Specify where you wish to insert the selected measures.

- On the TO side, use the ITEM ▲ and ▼ buttons to select the item. Then use the VALUE ∧ and ∨ buttons to specify the setting for that item.

TRACK:
Specify the track number.

- Measures from the CHORD, RHYTHM or CONTROL track can only be inserted in the same track.

START MEASURE:
Specify the start point to insert the selected measures.

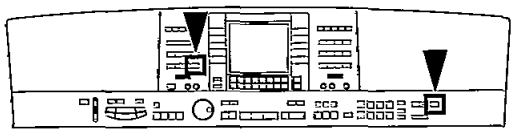
REPEAT:
Specify the number of times the selected measures are to be repeated.

3. Press the OK button.

- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
- Note that if the END command is included in the source data, it is also inserted. Any data following the END command is not inserted.

Part V Composer

Outline of the Composer

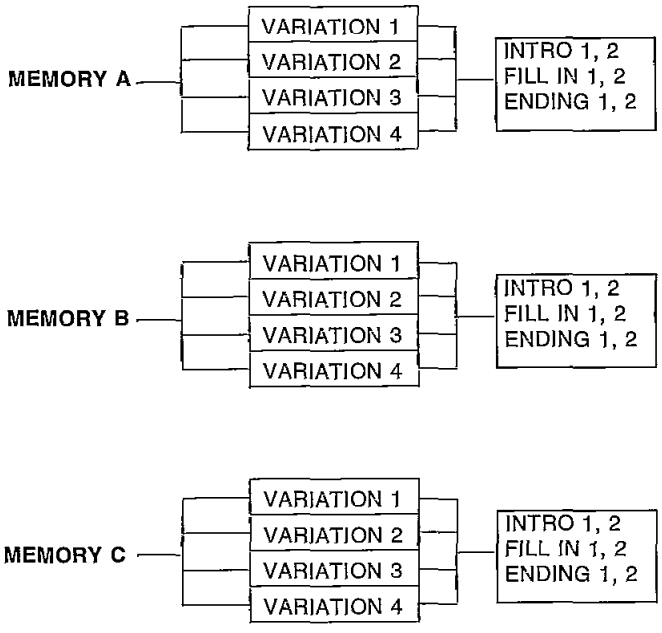


The **COMPOSER** enables you to create your own accompaniment patterns. A pattern is comprised of five parts: **DRUMS**, **BASS** and 3 **ACCOMP** parts. These parts would form the backing of a song.

Rhythm components which can be stored

You can store up to 4 types of patterns (VARIATION 1 to 4) in each **MEMORY** (A, B, C). You can also create INTRO 1 and 2, FILL IN 1 and 2, and ENDING 1 and 2 patterns for each **MEMORY**. During **MEMORY** playback, you can press the **INTRO & ENDING 1** or **2** button, or the **FILL IN 1** or **2** button to have your original pattern played back.

- The INTRO, FILL IN and ENDING patterns are the same for each variation within a **MEMORY**.



Memory capacity

Expressed in terms of notes, the total number of notes which can be stored in all the **COMPOSER** memories is about 10,000. The remaining memory available for recording is shown on the recording display as a percentage (%).

- When "Memory full!" appears on the display no more data can be stored in the **COMPOSER**.

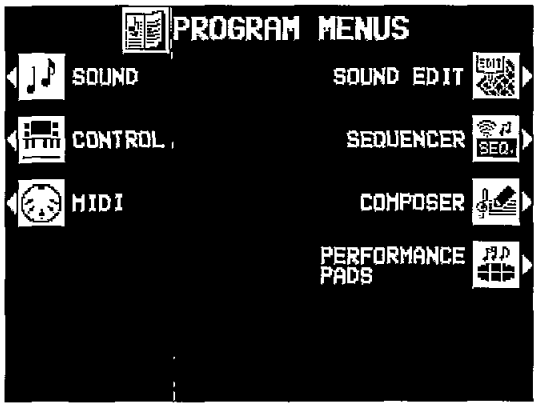
■ **MEMORY**

Because the contents of the **MEMORY** are erased after about 80 minutes after the power is turned off, you should save the data on floppy disks if you wish to keep it. (Refer to page 124.)

COMPOSER menu

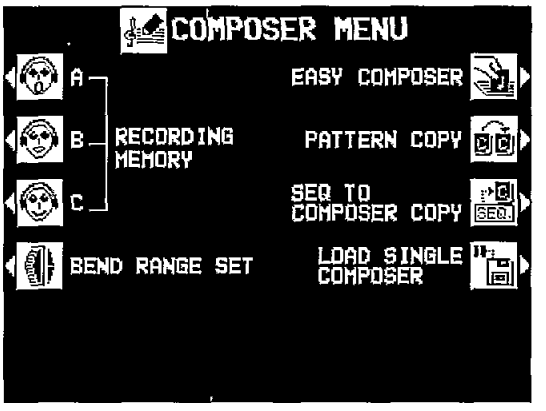
1. Press the **PROGRAM MENUS** button to turn it on.

- The display looks similar to the following.



2. Select COMPOSER.

- The display looks similar to the following.



- When GENERAL MIDI is ON, the **COMPOSER** does not function. (Refer to page 175.)

Summary of the COMPOSER menu items

RECORDING MEMORY-A
Create a memory in the **MEMORY A** bank.

RECORDING MEMORY-B
Create a memory in the **MEMORY B** bank.

RECORDING MEMORY-C
Create a memory in the **MEMORY C** bank.

EASY COMPOSER (page 106)
Create a rhythm pattern with a simplified procedure.

PATTERN COPY (page 112)
Copy a rhythm pattern into a memory.

SEQ TO COMPOSER COPY (page 113)
Copy recorded data in the **SEQUENCER** to the **COMPOSER**.

BEND RANGE SET (page 114)
Set the **PITCH BEND** range effective during recording for the **ACCOMP** and **BASS** parts.

LOAD SINGLE COMPOSER
Recall the desired **COMPOSER** data from data saved on a disk. This procedure is the same as when COMPOSER is selected for SINGLE LOAD. (Refer to page 119.)

Three ways to record in the COMPOSER

There are three ways to create and record a rhythm.

■ **Simple recording method**
Use EASY COMPOSER to quickly create a unique rhythm just by selecting a pattern for each part.

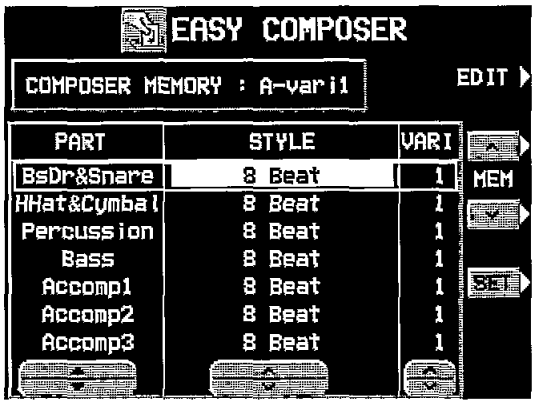
■ **Create a completely new rhythm** (page 107)
Compose all the parts of a completely new rhythm from scratch.
- You can use either realtime recording or step record for any part of the recording.

■ **Pattern Copy** (page 112)
Copy a preset rhythm or **SEQUENCER** data to a **COMPOSER** memory, edit it as you like, and then store it as a new rhythm.

Simple recording method

With EASY COMPOSER you can easily create a unique rhythm pattern by selecting a different style for each part of the rhythm.

1. On the COMPOSER MENU display, select EASY COMPOSER.
- The display looks similar to the following.



2. Use the MEM ∧ and ∨ buttons to select the memory in which to record your rhythm.
- Select from A-vari 1 to 4, B-vari 1 to 4 and C-vari 1 to 4.

3. Use the PART ▲ and ▼ buttons to select the part.
- In the EASY COMPOSER, the new rhythm pattern is divided into 7 parts, to each of which a style and variation is assigned.

4. Use the STYLE ∧ and ∨ buttons to select a style.

5. Use the VARI ∧ and ∨ buttons to select the variation number.
- The number of variations differs depending on the selected style.
- A part which is set to OFF does not sound. Note that the "BsDr&Snare" part cannot be set to OFF.

6. Repeat steps 3 to 5 to select styles for the other parts.

7. Press the SET button.
- The rhythm pattern is played back.
- The RHYTHM name changes to "Easy".
- If you are not satisfied with the rhythm pattern, repeat steps 3 to 7.
- If you wish to correct the sounds or phrases in your rhythm pattern, press the EDIT button. The display changes to the recording display. (Refer to page 109.)

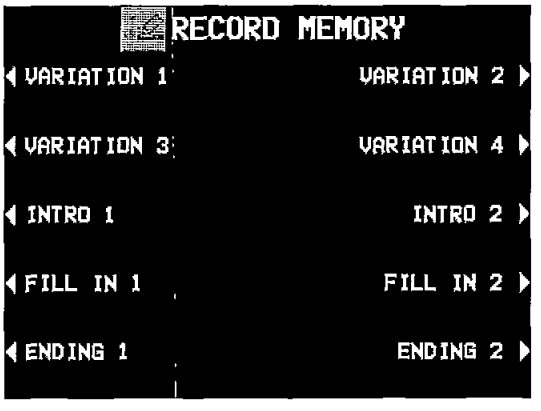
- For playback, refer to page 110.

Create a completely new rhythm

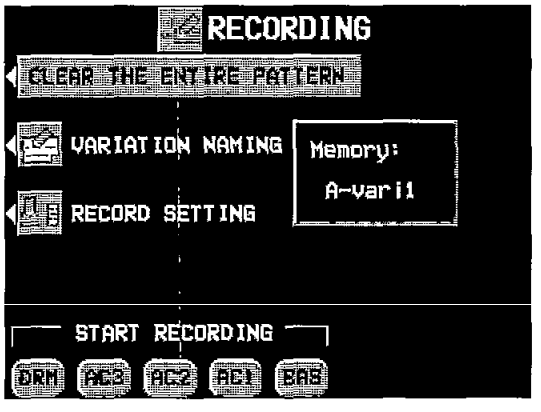
Clear the memories and compose a completely new rhythm from scratch.
- You can also use this method when copying a pattern from a preset rhythm or the **SEQUENCER.** (Refer to page 112.)

Prepare to record

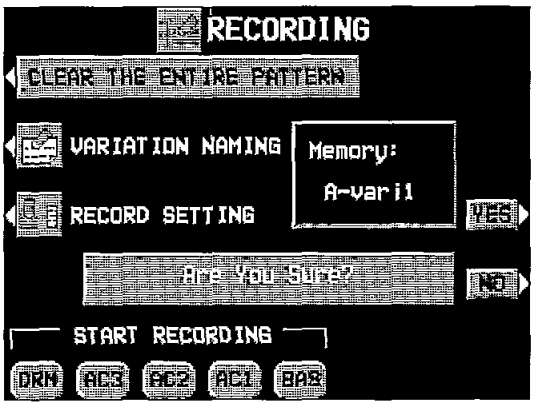
1. On the COMPOSER MENU display, select a memory in which to record (RECORDING MEMORY A, B, or C).
- The display looks similar to the following.



2. Specify the pattern you are going to create.
- The display looks similar to the following.



3. Press the CLEAR THE ENTIRE PATTERN button.
- The display looks similar to the following.



4. Press the YES button.
- Press the NO button to cancel the operation.

5. Press the VARIATION NAMING button.
- FILL IN, INTRO and ENDING patterns cannot be named.
- The display looks similar to the following.

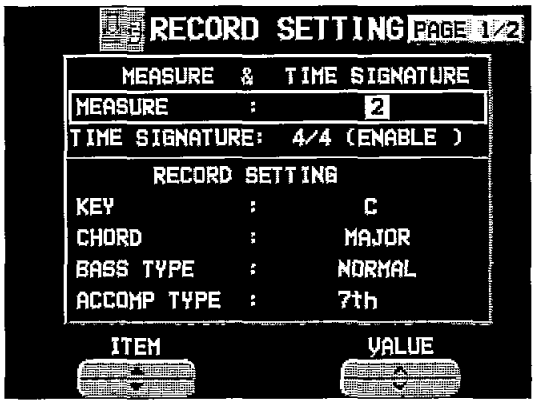
6. Type a name for your rhythm pattern.
- Use the POSITION buttons to highlight the character position in the name box. Use the ◄, ▲, ▼, ► buttons to select the alphanumeric character. Repeat these steps to type the whole name.
- Press the ABC button to switch to the screen for upper case (capital) letters, or the abc button to switch to the screen for lower case letters.

- Use the !#$ button to switch to the symbols character set.
- Use the INS button to type a space.
- Use the DEL button to erase a character.
- To erase all the characters, press the CLR button.
- You can press the →← button if you wish to have the name centered.

7. Press the OK button.
- The display changes to the RECORDING display.

8. Press the RECORD SETTING button.
- There are two screen pages of settings. Use the **PAGE** ∧ and ∨ buttons to switch between pages.

PAGE 1



Use the ITEM ▲ and ▼ buttons to select the item. Use the VALUE ∧ and ∨ buttons to change the setting.

MEASURE & TIME SIGNATURE

MEASURE:

Specify the number of measures in your repeating rhythm pattern (1 to 8).

TIME SIGNATURE:

Specify the time signature (1/4 to 8/4).
- This setting cannot be changed unless the CLEAR THE ENTIRE PATTERN procedure has been executed.

RECORD SETTING

KEY:

Specify the root note of the recorded performance.

CHORD:

Specify the type of chord you wish to record (MAJOR or MINOR).

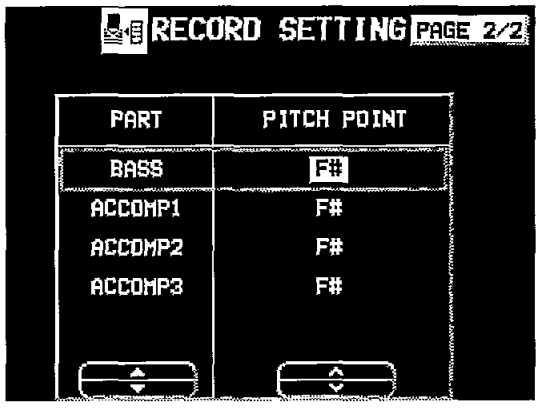
BASS TYPE:

Specify the type of phrase progression for the **BASS** part (NORMAL or 7th).

ACCOMP TYPE:

Specify the type of phrase progression for the **ACCOMP** parts (NORMAL or 7th).
- When 7th is selected and a chord is specified, if a 7th chord is specified during playback, the flat of the 7th tone is substituted for the 5th tone.

PAGE 2



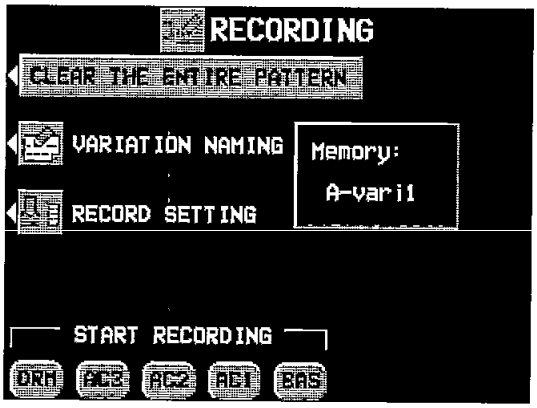
Use the PART ▲ and ▼ buttons to select a part, then the PITCH POINT ∧ and ∨ buttons to change the settings.

PITCH POINT:

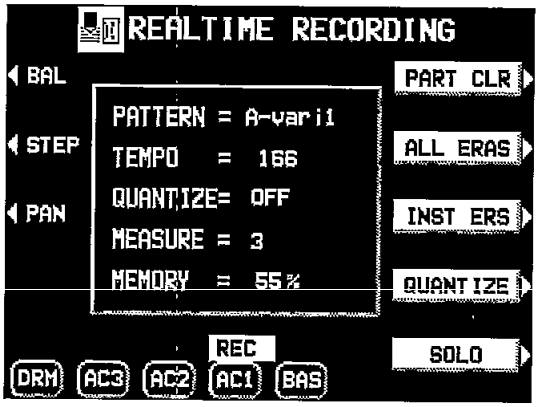
The pitch at which the pattern progression sound is lowered by one octave.
- When the root note of the specified chord is lower than the set pitch point, the pitch of that part is automatically raised by one octave, thus avoiding an unnaturally low accompaniment pitch.

9. Press the **EXIT** button.
- The RECORDING display is shown.

Recording procedure



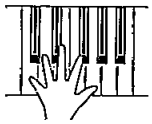
1. In the START RECORDING area on the display, select the rhythm part you want to record first.
   BAS: **BASS**
   AC1: **ACCOMP 1**
   AC2: **ACCOMP 2**
   AC3: **ACCOMP 3**
   DRM: **DRUMS**
- The metronome sound starts and the display looks similar to the following.



2. Adjust the tempo.
- The tempo is shown on the display as TEMPO=.
- The tempo can be freely adjusted when you play back the rhythm pattern, so record at the tempo which is easiest for you to play.

3. Select the sound.
- For the **DRUMS** part, only sounds from the **DRUM KITS** sound group can be selected.
- For the **ACCOMP** and **BASS** parts, select sounds from groups other than the **DIGITAL DRAWBAR** (**KN1600**) and **DRUM KITS** sound groups.

4. Record the part.



- The specified number of measures are repeatedly played back, during which time any newly played notes are added to those already recorded. The current measure number is shown on the display as "MEASURE=".
- Record the performance in C major for correct chord progressions during playback. Follow the RECORD SETTING procedure if you wish to record the performance in a different scale. (Refer to page 108.)
- **PITCH BEND** and **MODULATION** (**KN1600**) effects are also recorded (except for the **DRUMS** part).
- The **SUSTAIN** ON/OFF is also stored (except for the **DRUMS** part).

■ Button functions

BAL:
Adjust the volume of each part on the PART BALANCE display. (These settings are not recorded.)

STEP:
Change to the STEP RECORD mode. (Refer to page 111.)

PAN:
Adjust the stereo balance of each part (Left64 – CENTER – Right63).
- When you press this button, the PANPOT SETTING setting display appears. Use the PART ∧ and ∨ buttons to select the part. Use the PANPOT ∧ and ∨ buttons to adjust the stereo balance.
- At "Left64", the sound is all the way to the left, at "Right63" all the way to the right. The center point is CENTER.

PART CLR:
Erase all recorded contents of the currently selected part.
ALL ERAS:
The performance recorded in the selected part is erased for as long as this button is pressed.
INST ERS:
During recording of the DRUMS part, clear the part instrument by instrument.
- *Hold down this button and specify the instrument sound to be deleted by pressing the corresponding instrument key on the keyboard, after which only the specified instrument will be erased for as long as this button is kept pressed.*

QUANTIZE:
Smooth out any unevenness in the timing of your performance.
- Before recording, select the note value for the desired quantize level. (The quantize level is shown on the display as QUANTIZE=.)

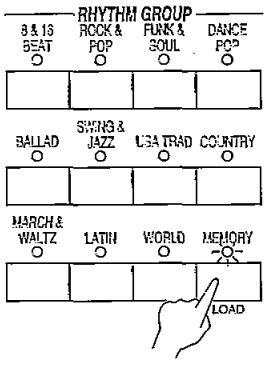
SOLO:
Mute all parts except the part which is currently being recorded.
- A MUTE mark is shown for the other parts on the display.
- To turn off the SOLO function, press this button again.

5. Use the buttons below the display to switch to a different recording part, and proceed to record each part in turn.

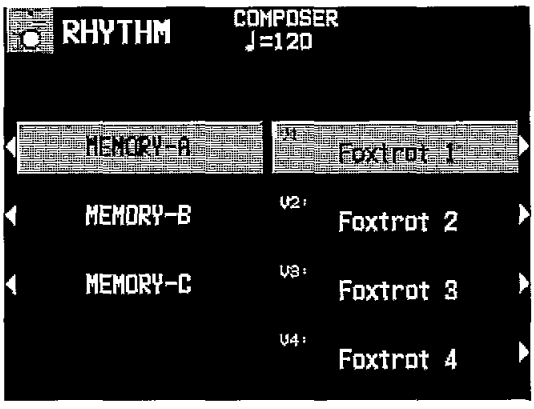
6. When you have finished recording the rhythm, turn off the **PROGRAM MENUS** button.

Playback

1. In the **RHYTHM GROUP** section, press the **MEMORY** button.



- The display looks similar to the following.



2. Use the buttons to the left of the display to select the desired memory.

3. Use the buttons to the right of the display to select a variation.
- The **VARIATION & MSA** buttons can also be used to select the desire variation number.

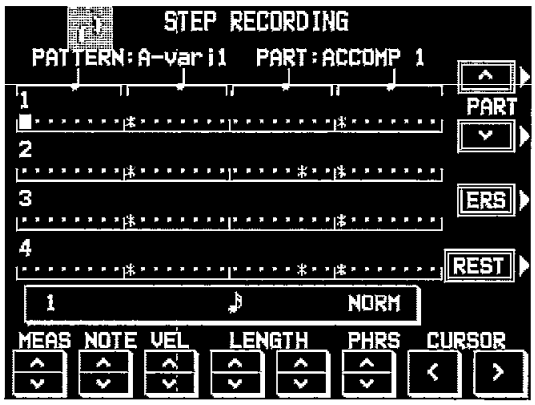
4. Press the **START/STOP** button.
- The **DRUMS** part begins to play back.
- The **BASS** and **ACCOMP** parts are played back when you use the **AUTO PLAY CHORD**.

Step Record

Use STEP RECORD to store the notes one-by-one on the display. This is a convenient way to store complicated patterns that are difficult to play.

Recording procedure

1. While you are recording, press the STEP button.
- The display changes to the STEP RECORD display similar to the following.



2. Use the MEAS buttons to select the measure you wish to record.
- This step is not necessary if you are recording from measure 1 of a blank part.

3. Use the CURSOR < and > buttons to move the cursor to the note position (dot) you are going to store.
- Each dot represents one-eighth of a quarter-note (a thirty-second note).
- When storing triplets, it may not be possible to match the timing exactly with the 1/32-note steps. However, if you select triplet-type notes for the note length (LENGTH) in step 4 below, the timing is automatically corrected.

4. Use the left LENGTH buttons to specify the note value. Select from 𝅘𝅥𝅯3, 𝅘𝅥𝅯, 𝅘𝅥𝅮3, 𝅘𝅥𝅮, ♪3, ♪, ♩3, ♩, 𝅗𝅥, 𝅝, 𝅝 × 2 to 4. (A 3 denotes a triplet-type note.)
- For note values other than these, use the right LENGTH buttons to specify the note value to be added to that which you specified with the left buttons.

Example: To record a dotted quarter-note (♩.)

♩ + ♪

5. Use the PHRS ∧ and ∨ buttons to specify the actual length of the produced sound for the desired legato or staccato effect.

TENU (tenuto):	Sound is produced for 95% of the note length.
NORM (normal):	80%
STAC (staccato):	50%
CUTT (cutting):	25%

6. Specify the pitch and velocity of the note by playing the keyboard.
- The dot on the display where the note is stored changes to a * mark.
- When recording chords, you can store multiple notes at one position.

REST: To store a rest, after specifying the note LENGTH, press the REST button.
- Positions at which nothing is stored are read as rests.

ERS: If you make a mistake, move the cursor to the error, and after displaying the data you wish to erase, press the ERS button.

7. Repeat steps 3 through 6 to continue storing notes.
- To record a different part, use the PART ∧ and ∨ buttons to select another part.

- You can easily switch between the REALTIME mode and the STEP mode any time during recording. To return to the realtime recording display during the STEP RECORD mode, press the **EXIT** button.

■ **Correcting the data**

1. In the STEP RECORD mode, specify the part you wish to correct.

2. Use to MEAS buttons to go to the measure you wish to modify. Use the CURSOR buttons to move the cursor to the point (∗) you wish to edit.
- The data stored at that point is shown on the display.
- When a chord is stored at one point, a different note of the chord is displayed in order each time a CURSOR button is pressed.

3. Correct the data.
- NOTE data (note pitch) and VEL data (how hard the key was played), etc. are displayed. Use the relevant buttons to correct the data as desired.

- Press the ERS button to erase the data which is displayed.
- You can also correct data which was stored in the REALTIME RECORD mode.

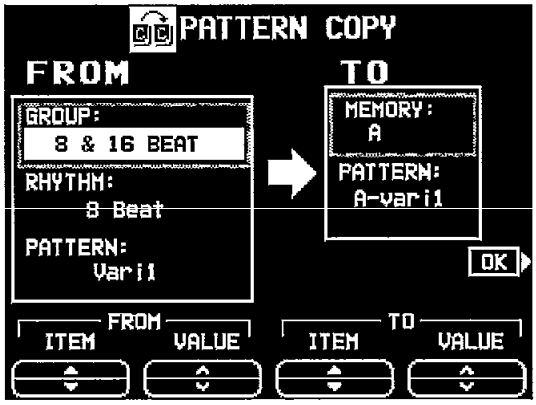
Pattern Copy

Use this function to copy a pattern from a rhythm or from **SEQUENCER** data.

PATTERN COPY

Copy a rhythm to the **COMPOSER**.
- You can also copy a pattern from the **COMPOSER**.

1. On the COMPOSER MENU display, select PATTERN COPY.
- The display looks similar to the following.



2. Select the pattern you wish to copy.
- In the FROM box, use the ITEM ▲ and ▼ buttons to select the group, rhythm and pattern, and the VALUE ∧ and ∨ buttons to specify the name.

  GROUP: Group name
  RHYTHM: Rhythm name
  PATTERN: Pattern name
  - If ALL is selected, all the patterns are copied.

3. Select the memory you wish to copy to.
- In the TO box, use the ITEM ▲ and ▼ buttons to select the memory and pattern, and the VALUE ∧ and ∨ buttons to specify the name.

  MEMORY: Memory name (A, B or C)
  PATTERN: Pattern name
  - If ALL is selected, all the patterns are copied.

4. Press the OK button.
- When copying has been successfully completed, "COMPLETED!" appears on the display.

- If you wish to use the **COMPOSER** functions to edit the copied data, on the COMPOSER MENU display, select the memory and pattern you copied to, and follow the procedure to record a pattern.

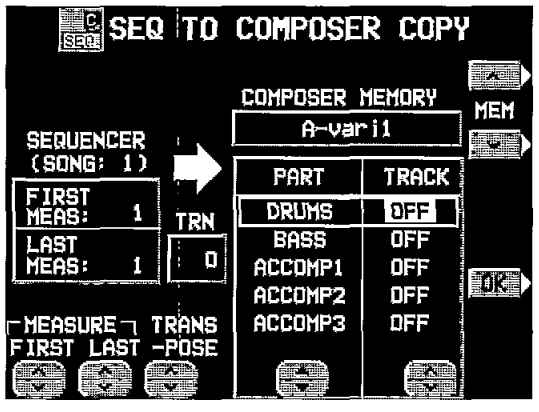
SEQ TO COMPOSER COPY

Data from the **SEQUENCER** can be copied to a **COMPOSER** memory. For example, you can use a rhythm pattern on a song disk as the automatic accompaniment for your own performance.

1. Play back the song you wish to copy from **SEQUENCER** to confirm the tracks, the measures and the time signature you wish to copy.

2. Follow the procedure in "Prepare to record" to prepare the **COMPOSER** memory you will be copying to. (Refer to page 107.)
- Be sure that time signature setting in the **SEQUENCER** data you are copying from and the time signature in the **COMPOSER** memory you are copying to are the same, or the data will not be copied successfully.

3. On the COMPOSER MENU display, select SEQ TO COMPOSER COPY.
- The display looks similar to the following.



4. Use the MEASURE FIRST ∧ and ∨ buttons to specify the number of the first measure to copy.

5. Use the MEASURE LAST ∧ and ∨ buttons to specify the number of the last measure to copy.
- Up to 8 measures can be copied.

6. Use the TRANSPOSE ∧ and ∨ buttons to change the key of the copied measures (–24 to +24).
- Units are in semitones.

7. Use the MEM ∧ and ∨ buttons to specify the **COMPOSER** memory to copy to.

8. For each **COMPOSER** part, specify the **SEQUENCER** track from which to copy data.
- Use the PART ▲ and ▼ buttons to specify the part name, and the TRACK ∧ and ∨ buttons to specify the track number.
- Parts which are set to OFF are blank.

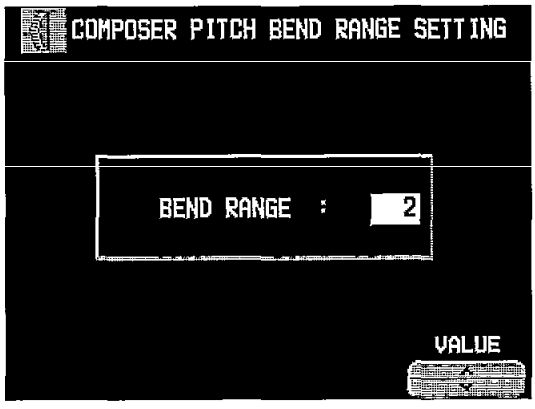
9. Press the OK button.
- "COMPLETED!" is shown on the display.

- If you wish to use the **COMPOSER** functions to edit the copied data, on the COMPOSER MENU display, select the memory and pattern you copied to, and follow the procedure to record a pattern.

Bend Range

Adjust the amount of pitch change applied to the **ACCOMP** parts and the **BASS** part when the **PITCH BEND** wheel is operated during **COMPOSER** recording.

1. On the COMPOSER MENU display, select BEND RANGE SET.
- The display changes to the following.

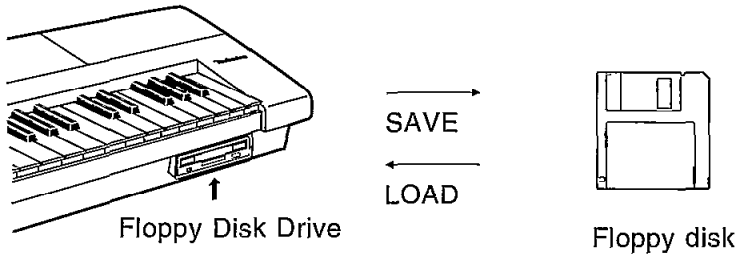


2. Use the VALUE ∧ and ∨ buttons to specify the range (0 to 12).
- Increments are in semitones.

Part VII Disk Drive

Outline of the Disk Drive function

The Disk Drive enables you to store recorded and stored data from this instrument's memories on floppy disks, as well as play commercial recorded disks on this instrument.



Internal memory and Floppy Disk Drive

The storable internal memory of this instrument as well as the backup time are limited. However, the Disk Drive maximizes your control of data management by allowing you to store (SAVE) this instrument's data on floppy disks, and then to recall (LOAD) it at any time.

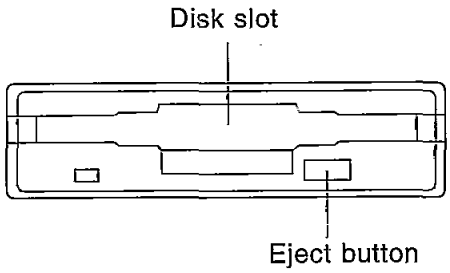
- For more information about the backup time and performance data, please see page 180.

■ **The following data can be saved/loaded:**

BACKUP	PERFORM-ANCE	CURRENT PANEL (The current panel settings)
		PANEL MEMORY*
		SEQUENCER
		COMPOSER* (MEMORY contents)
		SOUND MEMORY*
		PADS (USER memories of the **PERFORMANCE PADS**)
		USER MIDI SETTINGS (USER memories of the MIDI PRESETS)

- The PERFORMANCE group includes the data used in your performance. The PERFORMANCE group along with the USER MIDI SETTINGS comprises the BACKUP group.
- When creating or saving song data, it is recommended that you use the performance data in the PERFORMANCE group.
- Instead of using USER MIDI SETTINGS as frequently loaded and saved data, it is recommended that you save it with other data as Keyboard backup data.
- A * mark indicates that data can be loaded to and from a specific memory (SINGLE LOAD).
- The **SEQUENCER** contents can be saved in one-song increments (SEQUENCER SONG SAVE).

Main parts of the Floppy Disk Drive



Eject button
Press to remove the disk from the Disk Drive.

- You can use 3.5 inch 2DD (720 KB) or 2HD (1.44 MB) floppy disks; however, 2HD disks formatted as 2DD cannot be used.

Using commercial song disks

Not only disks recorded on this instrument, but also data from commercial song disks can be read on this instrument.

- This instrument accepts the following file formats:

TECHNICS File format
Standard MIDI File format

■ Loading Technics File format disks

Using Technics file format disks allows you load new SOUND EDIT, rhythm & accompaniments, **PANEL MEMORY**, **PERFORMANCE PADS** and Song data into your instrument to expand its potential even further.

■ About Standard MIDI Files

"Standard MIDI File" (SMF) is a standardized data format which makes it possible for music data to be exchanged among different sequencers. Data stored in this format on sequencers of different models can be played back on this instrument, and vice versa. Note, however, that Standard MIDI Files ensure the compatibility of data such as NOTE data (keyboard performance data), VELOCITY (how hard the keyboard is played), PROGRAM NUMBER data (voice number data), etc. Because it does not guarantee 100% faithful reproduction of recorded music which is replete with such data, it may be necessary for you to adjust the settings to your satisfaction.

- Only files with the ".MID" extension can be loaded.
- Standard MIDI File FORMAT 1 can be loaded, but not saved.
- This instrument's **SEQUENCER** data can be saved to a disk in Standard MIDI File (FORMAT 0) and can be used by other equipment.

Playback of commercial song disks

DIRECT PLAY lets you enjoy playing commercially sold song disks directly from a disk. It's fast because you don't have to load the disk data into your instrument's memory.

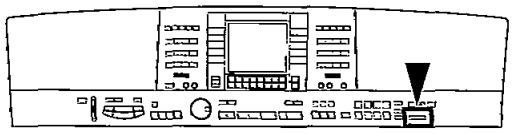
- DIRECT PLAY is possible from the following disks:

Standard MIDI File FORMAT 0
TUNE 1000 "Standard MIDI File with Lyrics" (FORMAT 0 only)
DISK ORCHESTRA COLLECTION™ (DOC)
PianoDisc™

* All product and company names are trademarks or registered trademarks of their respective owners.
* DISK ORCHESTRA COLLECTION is a trademark of the YAMAHA Corporation.

- The lyrics for TUNE 1000 "Standard MIDI File with Lyrics" are displayed only during DIRECT PLAY. Once a song is loaded to and played back by this instrument, the lyrics will not be displayed.

Outline of the procedure

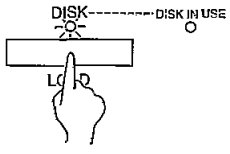


1. Insert the floppy disk into the Disk Drive slot. Push it all the way in until you hear a click.
- On this instrument, if the normal display is active, it automatically changes to the DISK MENU display when a floppy disk is inserted into the Disk Drive (initialized settings). The PREFERENCES menu is used to specify which display is shown when a disk is inserted.

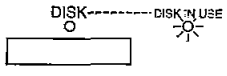
2. Select a menu on the DISK MENU display.
- If the DISK MENU display does not appear, turn on the **DISK** button.

3. Follow the procedure for the function (see below).
- When function is being set, if the **TEMPO/PROGRAM** indicator is lit, the **TEMPO/PROGRAM** is available for setting the current function.

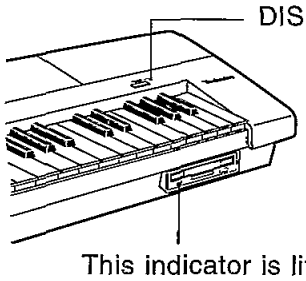
4. When you have finished setting the functions, turn off the **DISK** button.



■ DISK IN USE

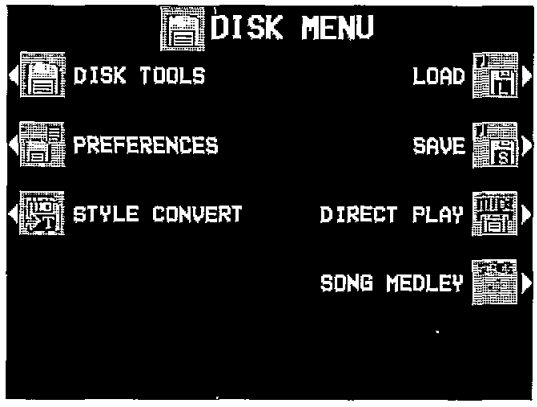


This indicator lights when data is being loaded or saved.
- To prevent data loss, do not eject the disk or turn off the power while this indicator is lit.



This indicator is lit continuously as long as the power is on.

■ About the menu



(KN1600)

LOAD (page 118)
Load data from a disk into this instrument's memory.

SAVE (page 124)
Save data from this instrument's memory to a disk.

DIRECT PLAY (page 121)
Direct playback of commercial song disks and medley playback.

SONG MEDLEY (page 123)
Medley playback of songs in the floppy disk (Technics format).

DISK TOOLS (page 128)
Disk management procedures, such as disk format.

PREFERENCES (page 129)
Automatic display when a floppy disk is inserted.

STYLE CONVERT (**KN1600**) (page 130)
Load commercially sold style data to the **COMPOSER**.

Loading data

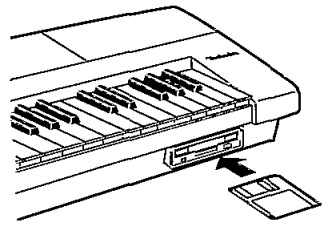
Recall (load) the data from the disk to this instrument's memories.

- Note that the load procedure causes any data which is currently stored in the relevant memories to be erased.

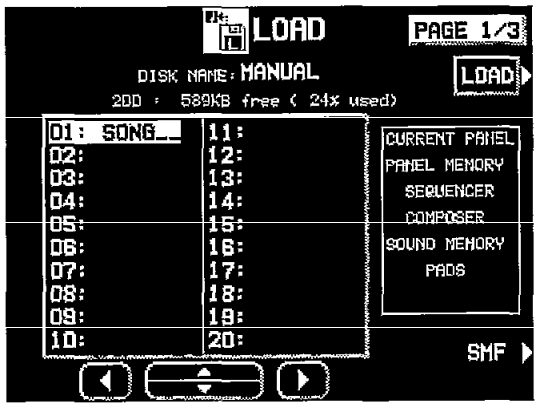
LOAD

Load data that saved to a disk into this instrument's memory.

1. Insert the disk with the stored data into the Disk Drive. Push it all the way in until you hear a click.



2. On the DISK MENU display, select LOAD.
- The display looks similar to the following.



- If there are only SMF files on the disk, the display automatically changes to the SMF LOAD display.

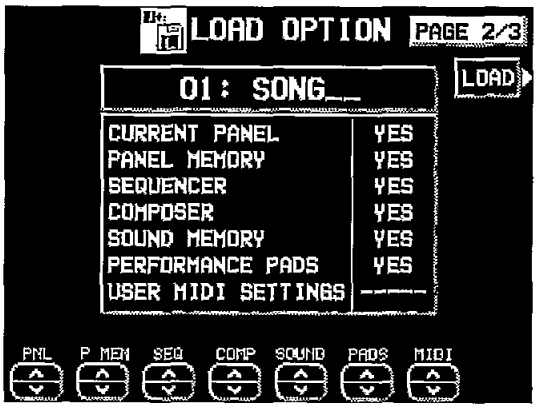
3. Use the buttons below the display to select the file (Technics file) you wish to load.
- If there are SMF files on the disk and you wish to load an SMF file, press the SMF button. (Refer to next page.)
- The types of data which can be loaded from the file are shown in a frame on the right side of the display. You can press the LOAD button to load all of the indicated data, or you can use the LOAD OPTION to select specific data to load.

4. Press the LOAD button.
- The LOAD operation begins.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.
- If song data was loaded, you can press the **START/STOP** button to begin playback when the SEQUENCER PLAY display is active.
- You can load the type of data for which only one song can be recorded in the **SEQUENCER**. (This type is available for disks used with older Technics models.) Note, however, that in this case, the song is loaded into SONG 1, but the data in SONG memories 2 to 10 are erased.
- You can also access the LOAD display by pressing the **DISK** button for a few seconds.

■ LOAD OPTION

Specify the kind of data you wish to load from the disk to your instrument.

1. Use the **PAGE** buttons to access the PAGE 2/3 LOAD OPTION display.
- The display looks similar to the following.



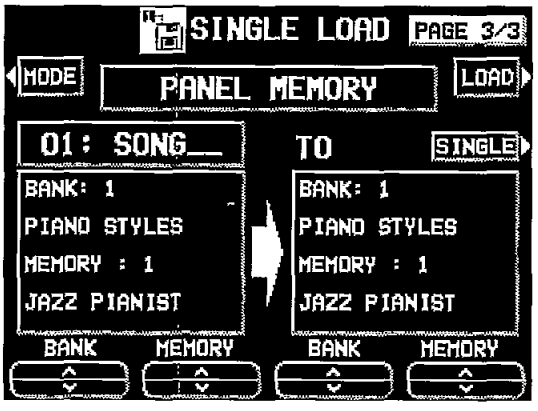
2. Use the buttons below the display to specify the types of data you wish to load (YES/NO).
- ----- indicates that this type of data has not been saved.
- This setting is canceled when you quit the LOAD display or when another file is selected.

3. Press the LOAD button.
- The LOAD operation begins.

■ SINGLE LOAD

Load only the desired data from a disk into a specific PANEL MEMORY, COMPOSER (MEMORY), SOUND MEMORY, SEQUENCER (when SONG SAVE was executed) memory.

1. Use the **PAGE** buttons to access the PAGE 3/3 SINGLE LOAD display.
- The display looks similar to the following.



2. Use the MODE button to select the data you wish to load.

3. Use the BANK/SINGLE button to select the load increment.

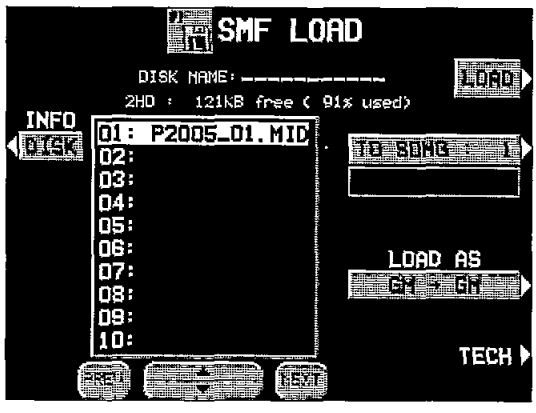
   BANK: Load one bank at a time.
   SINGLE: Load the smallest data increment.

4. Follow the appropriate procedure to load the specified data.
- Specify the data source for FROM (left side), and the data destination (this instrument's memory location) for TO.

■ SMF LOAD

Load data which was saved in the "Standard MIDI File" (SMF) format.

1. On the LOAD display, press the SMF button.
- The display looks similar to the following.



- For disks which contain SMF files only, this display appears automatically when LOAD is selected on the DISK MENU display.

2. Use the ▲ and ▼ buttons to select the filename you wish to load.
- If the number of files is 10 or more, you can use the PREV and NEXT buttons to go back or advance 10 files at a time.
- If you press the TECH button, the display changes to the LOAD display for Technics files.

- You can use the INFO button to switch the displayed data.

  DISK: Disk name
  SONG: Song name

3. Use the TO SONG button to select the number to load to (this instrument's **SEQUENCER** song number).
- Songs to load are specified one at a time.
- The song name to load to is shown below the TO SONG button.

4. Use the LOAD AS button to specify the load method.
- Select from the following.

  GM → GM:
  Treat the file as a GENERAL MIDI file and load it with this instrument's GENERAL MIDI turned ON.
  GM → TECH:
  Treat the file as a GENERAL MIDI file and load it with this instrument's GENERAL MIDI turned OFF.
  TECH → TECH:
  Treat the file as a TECHNICS file and load it with this instrument's GENERAL MIDI turned OFF.
- Information about GENERAL MIDI (GM) can be found on page 166.
- If you select the setting which is different from that in which the song was stored, the sounds, octaves, and arrangement of percussion instrument sounds, etc. will be different.

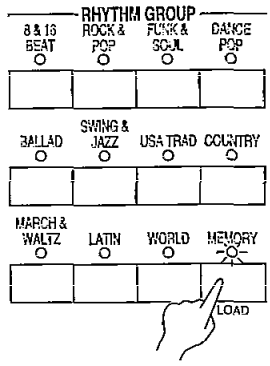
5. Press the LOAD button.
- The LOAD operation begins.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.
- If you press the **START/STOP** button, playback of the loaded data begins.

- During the LOAD operation, data that cannot be processed by this instrument is ignored.

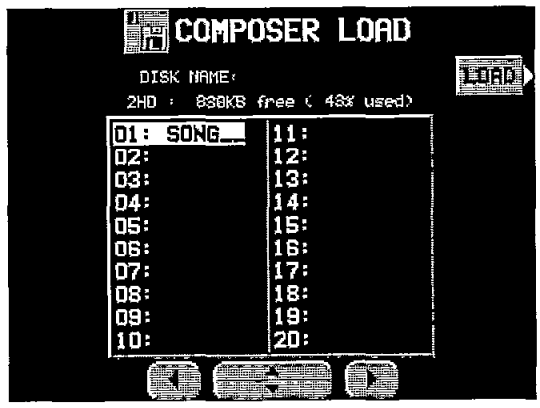
■ COMPOSER LOAD

Load **COMPOSER** data only from a disk.

1. In the **RHYTHM GROUP** section, press and hold the **LOAD (MEMORY)** button for a few seconds.



- The display looks similar to the following.



2. Select the name of the file you wish to load.

3. Press the LOAD button.
- Data is loaded to this instrument's **COMPOSER** memory (**MEMORY**).

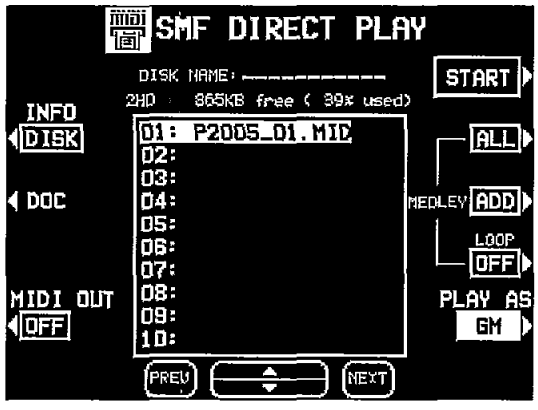
Direct Play

You can enjoy immediate playback of "Standard MIDI File" (SMF) (FORMAT 0), "Disk Orchestra Collection" (DOC) and "PianoDisc" disks—all without loading the song data.

1. Insert the disk with the stored data into the Disk Drive.

2. On the DISK MENU display, select DIRECT PLAY.
- The display looks similar to the following.

<Example: SMF>



3. Use the ▲ and ▼ buttons to select the song you wish to have played.
- If the number of files is 10 or more, you can use the PREV and NEXT buttons to go back or advance 10 files at a time.
- When the DOC button is pressed, the button indication changes to SMF, and vice versa.
- For SMF files, use the PLAY AS button to specify a sound arrangement mode (TECH/GM). If the playback data was saved in the GENERAL MIDI mode, select GM.
- For SMF files, you can use the INFO button to switch the displayed data.

  DISK: Disk name
  SONG: Song name
- For SMF files, use the MIDI OUT button to specify whether or not MIDI data is output during playback (ON/OFF). (This cannot be changed during playback.)

4. Press the START button.
- The selected song is played back.

■ Adjusting the playback tempo

Even with a song having recorded tempo data, you can use **TEMPO/PROGRAM** or **TAP TEMPO** to adjust the tempo to your liking.
- When the tempo is changed, all the tempo data of that song is automatically changed by the same ratio. Accordingly, even in song data in which tempo change data is stored, a single adjustment of the tempo produces a natural-sounding playback.

■ The display during playback

<Example: SMF>

- During playback, the buttons below the display are used for player functions such as fast forward, pause, etc.
- During playback, if you press the MIXER button you can change the settings for each part.

- For SMF disks:
  For some disks, by pressing the LYRICS button, the lyrics are shown on the display.
  For a "minus one" performance, use the CH ∧ and ∨ buttons to select the channel you wish to mute. Then turn the MUTE ON/OFF button to ON. You can perform the part for the selected channel on the keyboard. Following this, you can also specify the performance part using the **CONDUCTOR** buttons.
- For DOC disks:
  You can use the RT1 (RIGHT 1), RT2 (RIGHT 2) and ORCH (other accompaniment parts) buttons to set the respective parts to ON or OFF.
- For PIANO DISC playback:
  You can use the RT1 (RIGHT 1) and ORCH (other accompaniment parts) buttons to set the respective parts to ON or OFF.

■ MEDLEY PLAY

With DIRECT PLAY, songs saved on a disk can be played back continuously in a medley.

1. On the DIRECT PLAY display, set the MEDLEY settings.
- If ALL is pressed, all the files are selected, and the songs are played back in order in a medley. If ALL is pressed again, the files are deselected.
- You can use the ▲ and ▼ buttons to select a song to add to the song list, then press the ADD button to add it to the list. Repeat these steps to create your own list of songs to have played back. A M01, M02 etc. next to the file name indicates its order in the list.
- If the number of files is 10 or more, you can use the PREV and NEXT buttons to go back or advance 10 files at a time.
- You can delete a marked file from the medley song list by selecting it and pressing the ADD button.
- Use the LOOP button to specify ON or OFF for repeat playback of the medley.

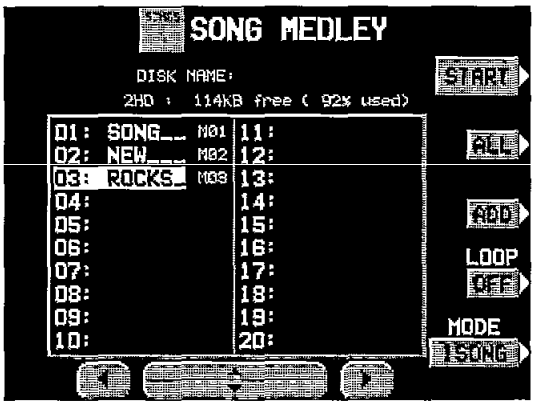
2. Press the START button.
- Medley playback begins.

- During medley playback, you can use the SKIP button to skip to the next song.

Song Medley

Songs saved from the **SEQUENCER** to a disk (disk data) in the TECHNICS FORMAT can be played back in a medley.

1. On the DISK MENU display, select SONG MEDLEY from the display.
- The display looks similar to the following.



2. Select the order of files in the medley.
- If ALL is pressed, all the files are selected, and the songs are played back in numerical in a medley.
- You can select a file and song, then press the ADD button to add it to the song list. Repeat these steps to create your own list of songs to have played back. A M01, M02 etc. next to the file name indicates its order in the list.
- You can delete a marked file from the medley song list by selecting it and pressing the ADD button.
- Use the LOOP button to specify ON or OFF for repeat playback of the medley.
- You can use the MODE button to select the medley mode.

  10 SNGS:
  Songs 1 to 10 from each file are played in a medley.

  1 SONG:
  Only song 1 from each file is played back in a medley.

3. Press the START button.
- Medley playback begins.
- During the performance, the display changes to the playback display.
- During a medley performance, if you press the MIXER button you can change the settings for each part.
- During a medley performance, you can use the SKIP button to skip to the next song.

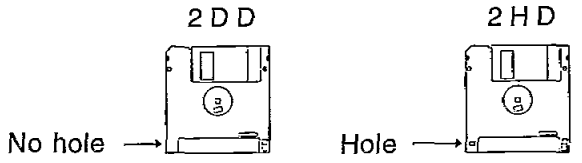
Saving data

The recorded data and panel settings of this instrument can be saved on a disk.

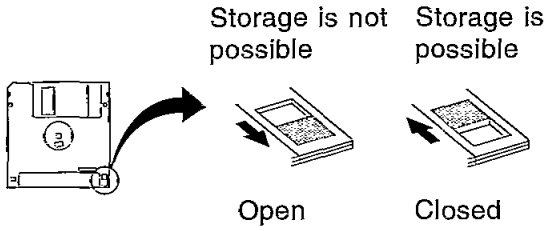
Floppy disks

You can use 3.5 inch 2DD (720KB) or 2HD (1.44MB) disks.

- How to distinguish the two disk types:



- Although 2HD disks can hold more data and are convenient for quick loading and saving, some models may be able to read only 2DD disks. Therefore, you may not be able to use your 2HD disk data with other musical instrument models.
- When saving data to the disk, the write-protect tab must be closed.

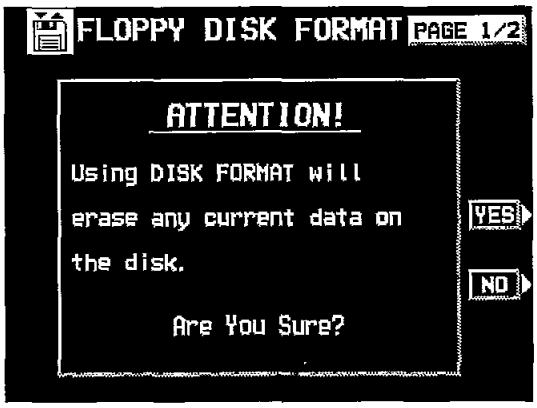


■ FORMAT

Floppy disks which are used for the first time with this instrument have to be formatted through the following procedure. When an unformatted disk is inserted into the Disk Drive slot and you attempt to execute the save or load procedure, the FLOPPY DISK FORMAT display appears. Follow the instructions shown to format the disk.

- Note that this procedure clears any data which is currently stored on the disk.

1. Select the type of format (2DD or 2HD).
- Be sure to select the type which is the same as your disk type.
- If the type is automatically detected, the display changes directly to the following display, without showing the type select display.
- The display looks similar to the following.



- If you wish to select the type again, use the **PAGE** button to access the PAGE 2/2 display.

2. Press the YES button to format the disk, or press the NO button to cancel the format.
- When the YES button is pressed, disk format begins. After about 1–2 minutes, formatting is completed and DISK NAMING display is shown.

3. Assign a name to the disk.
- Use the POSITION buttons to highlight the character position in the name box. Use the ABC...123 buttons to select the alphanumeric character. Repeat these steps to type the whole name.
- Use the INS button to type a space.
- Use the DEL button to erase a character.
- To erase all the characters, press the CLR button (all the characters change to underlines).
- You can press the →← button if you wish to have the name centered.

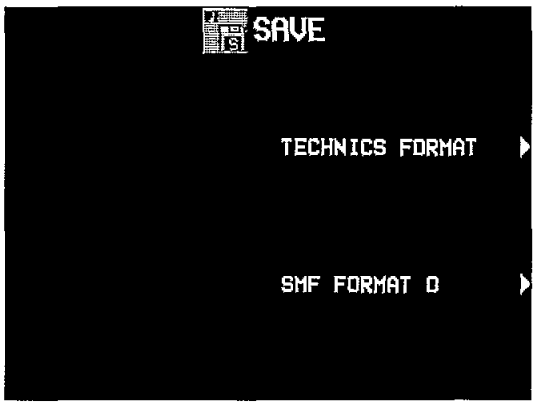
4. Press the OK button.

- The FORMAT display can also be accessed from the DISK TOOLS menu when, for example, you wish to reformat a disk. (Refer to page 128.)

SAVE

1. Insert a formatted disk into the Disk Drive slot. Push it all the way in until you hear a click.
- A disk which is used with this instrument for the first time must first be formatted.

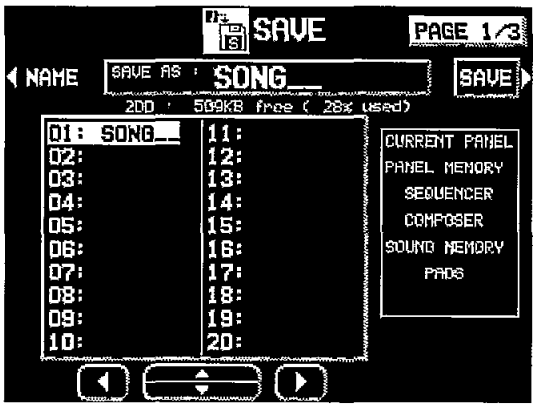
2. On the DISK MENU display, select SAVE.
- The display looks similar to the following.



3. Select the type of data save you want.

TECHNICS FORMAT:
Save this instrument's data in the Technics File format.
SMF FORMAT 0:
Save the **SEQUENCER** data in the "Standard MIDI File" format (FORMAT 0).

■ TECHNICS FORMAT



1. Use the buttons below the display to specify the file number you wish to save to.
- The types of data that can be saved are shown in a frame on the right side of the display. If you press the SAVE button, all the indicated data is saved. Ordinarily PERFORMANCE data is selected, but you can use the SAVE OPTION to select specific data to save.

2. If you wish to assign a name to the file, press the NAME button.
- The display looks similar to the following.

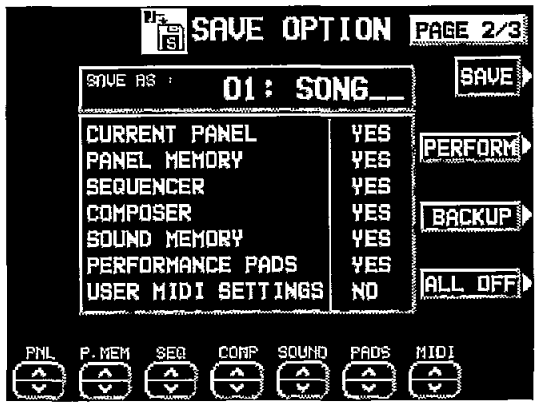
3. Assign a name to the file.
- Use the POSITION buttons to highlight the character position in the name box. Use the ABC...123 buttons to select the alphanumeric character. Repeat these steps to type the whole name.
- Use the INS button to type a space.
- Use the DEL button to erase a character.
- To erase all the characters, press the CLR button (all the characters change to underlines).
- You can press the →← button if you wish to have the name centered.

4. Press the OK button.
- The display returns to the SAVE display.

5. Press the SAVE button.
- The SAVE operation begins.
- If you attempt to save data to a file number in which data is currently saved, the display changes to the confirmation display. Press the YES button to continue the SAVE procedure, or press the NO button if you wish to cancel it.

<SAVE OPTION>
Specify the kind of data you wish to save to the disk. To maximize effective use of disk memory or to minimize the save time, select only the type of data you wish to save.

1. Use the **PAGE** buttons to access the 2/3 SAVE OPTION display.
- The display looks similar to the following.

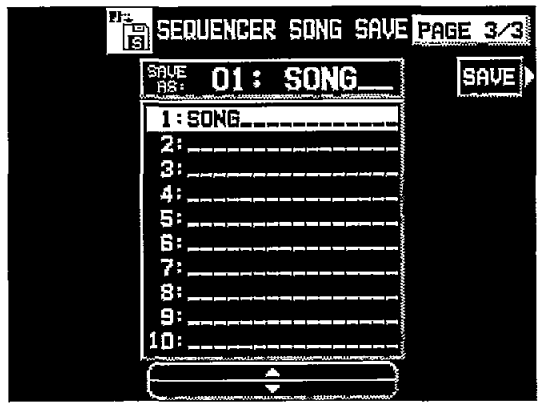


2. Use the buttons below the display to specify the types of data you wish to save (YES/NO).
- For PANEL MEMORY, select from YES/NO/1 BANK. If you save data with 1 BANK selected, only the contents of BANK 1 are saved and when loading data, only the BANK 1 data is overwritten; the other banks are not affected.
- Press the PERFORM button to select all the performance data (that is, all data except USER MIDI SETTINGS), or press the BACK-UP button to select all the data at once.
- If the ALL OFF button is pressed, all the settings change to NO.

3. Press the SAVE button.
- The SAVE operation begins.

<SEQUENCER SONG SAVE>
You can specify a single song in the **SEQUENCER** to save to the disk.

1. Use the **PAGE** buttons to access the 3/3 SEQUENCER SONG SAVE display.
- The display looks similar to the following.



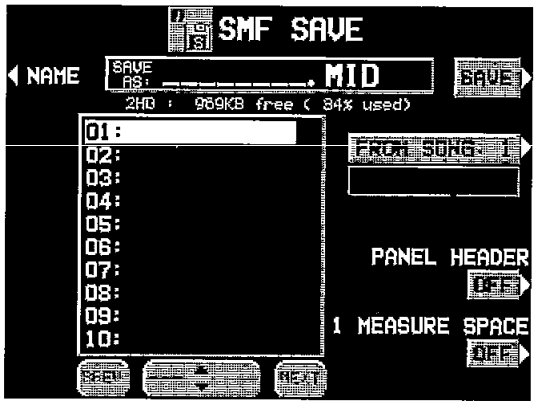
2. Use the ▲ and ▼ buttons to select the song number you wish to save.

3. Press the SAVE button.
- The SAVE operation begins.

■ SMF FORMAT 0

This instrument's **SEQUENCER** data can be saved in the "Standard MIDI File" format (FORMAT 0) for use on other instruments.

- What you can save in the SMF format (FORMAT 0) is ordinary performance data, such as note data. Data such as chord and rhythm data, **COMPOSER** data, **PANEL MEMORY** data, etc. is not saved. If you wish to also save this special Technics data, save the data in the Technics File format.



1. Use the ▲ and ▼ buttons to select the song number you wish to save to.
- If the number of files is 10 or more, you can use the PREV and NEXT buttons to go back or advance 10 files at a time.

2. If you wish to assign a name to the file, press the NAME button.
- The display looks similar to the following.

3. Assign a name to the file.
- Use the POSITION buttons to highlight the character position in the name box. Use the ABC...123 buttons to select the alphanumeric character. Repeat these steps to type the whole name.
- Use the INS button to type a space.
- Use the DEL button to erase a character.
- To erase all the characters, press the CLR button (all the characters change to underlines).
- You can press the →← button if you wish to have the name centered.

4. Press the OK button.
- The display returns to the SAVE display.

5. Use the FROM SONG buttons to select the **SEQUENCER** song number you wish to save.
- The song name to save from is shown below the FROM SONG button.

6. Use the PANEL HEADER buttons to specify ON or OFF.

   ON:
   The sound and volume settings for each part are saved as data at the beginning of the file.
   OFF:
   This data is not saved.

7. Use the 1 MEASURE SPACE buttons to select ON or OFF.

   ON:
   A one-measure space is added to the beginning of the file.
   OFF:
   No space is added.

- When there is various data other than performance data stored at the beginning of a file, the start of playback may be delayed. This can be avoided by set the 1 MEASURE SPACE to ON to inserting a before the beginning of the performance.
- When set to ON, a space is added each time a file is saved. Therefore, if you have already saved a file once with the 1 MEASURE SPACE set to ON, please set it to OFF each time the file is subsequently saved.

8. Press the SAVE button.
- The SAVE operation begins.
- When the operation has been successfully completed, "COMPLETED!" is shown on the display.
- If you attempt to save data to a file number in which data is currently saved, the display changes to the confirmation display. Press the YES button to continue the SAVE procedure, or press the NO button if you wish to cancel it.

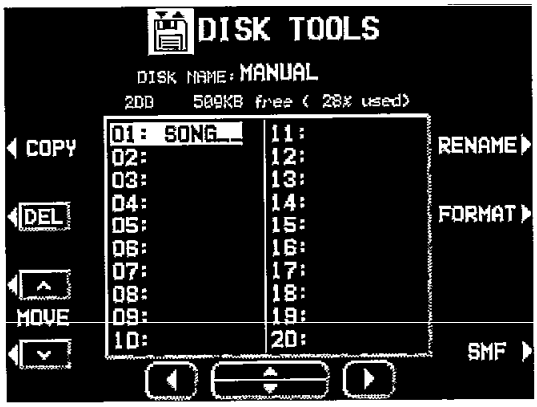
Disk management

Various disk management procedures, such as file erase, file copy, and disk format, are available from the DISK TOOLS menu.

DISK TOOLS

1. Insert the disk into the Disk Drive slot.

2. On the DISK MENU display, select DISK TOOLS from the display.
- The display looks similar to the following.



3. Select a function and follow the procedure to execute it.
- Use the buttons below the display to select a file.
- You can press the SMF/TECH button to change to the display for procedures related to TECH/SMF files.
- Use the buttons to the left and right of the display to access the corresponding setting display.

RENAME:
Assign a name to a file.

DEL:
Delete a file.

FORMAT:
Reformat the disk.

COPY:
Copy a file.

MOVE:
Replace a file.

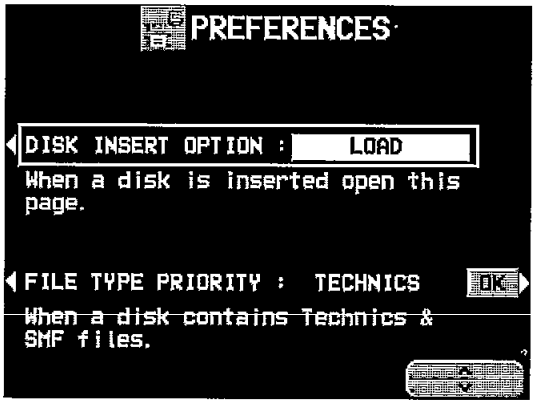
INFO (DISK/SONG) (SMF files only):
Select whether to display the disk data or the song names.

Set the automatic display when a disk is inserted

When a disk is inserted in the Disk Drive, the display automatically changes to a disk-procedure display. Follow this procedure to customize the automatic display.

PREFERENCES

1. On the DISK MENU display, select PREFERENCES.
- The display looks similar to the following.


PREFERENCES
DISK INSERT OPTION : LOAD
When a disk is inserted open this page.
FILE TYPE PRIORITY : TECHNICS
OK
When a disk contains Technics & SMF files.

2. Use the buttons to the left of the display to select the item, and the ∧ and ∨ buttons to change the setting.

DISK INSERT OPTION:
The display automatically changes to a disk-procedure display when a disk is inserted in the Disk Drive (OFF, DISK MENU, LOAD, DIRECT PLAY, SONG MEDLEY).
- During playback, recording or changing the settings, the displays unrelated to the settings made here do not change.

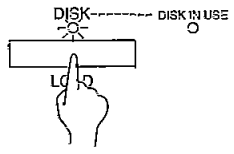
FILE TYPE PRIORITY:
Specify the desired priority ranking of displayed files when Technics files and SMF files are both recorded on the one disk (TECHNICS/SMF).

3. Press the OK button.

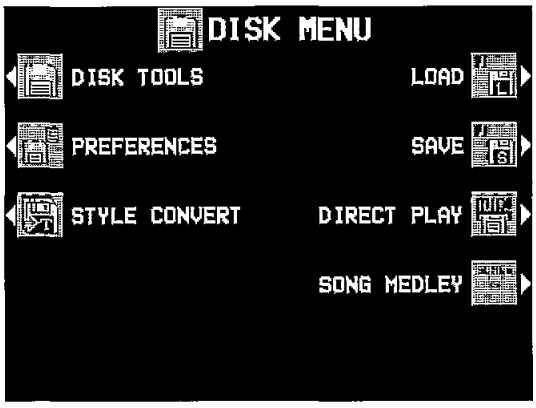
How to use the Style Convert Disk (KN1600)

Style data from commercial manufacturers can be loaded into the **COMPOSER** and used by this instrument.

1. Turn on the **DISK** button.



2. On the DISK MENU display, select STYLE CONVERT.



3. Insert the "STYLE CONVERT DISK" that was included with this instrument into the Disk Drive slot.
- The display changes to the STYLE TYPE SELECT display.

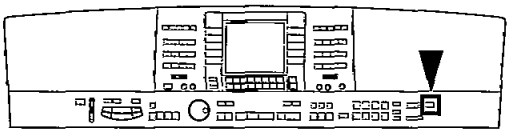
4. Select the style type.

5. Press the OK button.

6. Follow the instructions on the display to perform the desired operation.
- The operation differs depending on the type of disk.
- For Technics type data, all of the MEMORY contents of the **COMPOSER** are overwritten, and in some cases, the SOUND MEMORY contents are also overwritten.
- Style data that requires a lot of data space may not be loaded.
- Depending on the style, volume balance and tone nuances in each part of the pattern may not be played back as in the original data because of the difference in sound source waveform. Also, special effects and tones including edited tones may not be played back correctly.
- It is possible to play back patterns over 8 bars in length, but they are not recorded or edited correctly.
- When style data differs for INTRO, FILL IN and VARIATION time signature, INTRO, FILL IN and ENDING are not played back.
- Depending on the manufacturer, the number of styles written on the disk label may differ from the actual number of styles included on the disk.

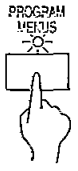
Part VII Sound

Outline of the Sound

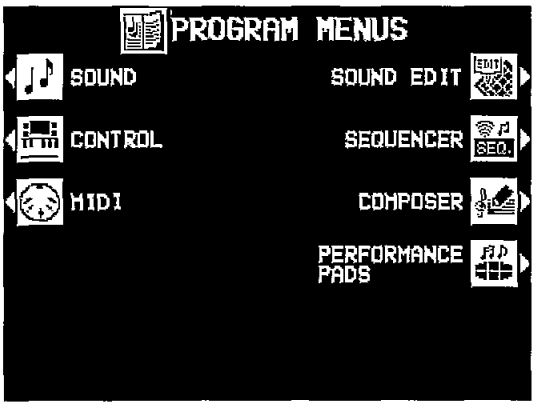


The SOUND mode is used for making fine adjustments to the functions related to sound, such as tone, effects and tuning.

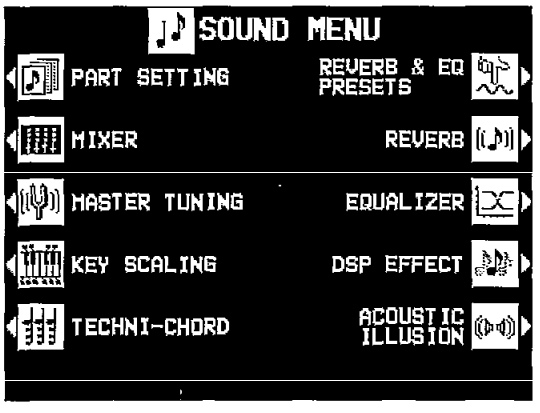
1. Press the **PROGRAM MENUS** button to turn it on.



- The display looks similar to the following.



2. Select SOUND.
- The display looks similar to the following.



3. Select the desired menu.

4. Follow the procedures on the corresponding menu display.
- When the **TEMPO/PROGRAM** indicator is lit, it indicates that the **TEMPO/PROGRAM** is available for setting the current function.

Summary of the SOUND menu items

PART SETTING (page 132)
Set the various sound attributes for each part.

MIXER (page 136)
Use the MIXER display to visually adjust the major settings of each part.

MASTER TUNING (page 137)
Select the type of tuning for the instrument.

KEY SCALING (page 138)
Select the type of scaling (tuning).

REVERB & EQ PRESETS (page 139)
Select the reverb and equalizer preset values.

REVERB
Select the type of **DIGITAL REVERB** effect and how it is applied. (Refer to page 42.)

EQUALIZER (page 140)
Adjust the equalizer.

DSP EFFECT
Select the type of DSP EFFECT 1, 2 and how it is applied. (Refer to page 41.)

ACOUSTIC ILLUSION
Specify the type of **ACOUSTIC ILLUSION** effect and how it is applied. (Refer to page 42.)

TECHNI-CHORD
Select the **TECHNI-CHORD** harmony style. (Refer to page 45.)

5. When you have finished setting the functions, press the **PROGRAM MENUS** button to turn it off.

■ **A word about parts**
The organization of the sound parts is as follows.

Normal parts (16 parts):
RIGHT 1 (PART 1), RIGHT 2 (PART 2), LEFT (PART 3), PART 4 to 16
- PART 16 is reserved for the DRUMS part.

AUTO PLAY CHORD (automatic accompaniment) parts:
ACCOMP 1, 2, 3, BASS, DRUMS, CHORD, R.BASS.

PERFORMANCE PADS part:
PADS

Part Setting

Set the various sound attributes for each part.

Selecting an attribute

1. On the SOUND MENU display, select PART SETTING.
- The display looks similar to the following.

2. Use the PART SELECT ∧ and ∨ buttons to select the part.
- PART 4 to 16 are used in **SEQUENCER** and MIDI functions. PART 16 is reserved for the DRUMS part.
- For information concerning CHORD and R.BASS, refer to the section on the **AUTO PLAY CHORD** (page 59).
- If necessary, assign a sound to the selected part at this time. (Only sounds from the **DRUM KITS** group can be selected for PART 16.)
- The upper portion of the display shows the name of the selected part and the sound assigned to that part. The box in the lower portion of the display shows the status of each attribute for the selected part.

3. Use the buttons along the bottom of the display to select the attribute you wish to adjust.
VOL: VOLUME
PAN: PAN
EFF: EFFECT
SUS: SUSTAIN
KEY: KEY SHIFT
TUN: TUNING
BND: PITCH BEND RANGE
OTH: OTHER SETTING
- The display changes to the setting display for the selected attribute.
- The settings which can be adjusted may differ depending on the selected part.

4. Adjust each attribute (explained in detail following).
- When you have completed adjustment of an attribute, use the buttons along the bottom of the display to select the next attribute you wish to adjust.

5. When you have completed adjusting all of the settings for one part, select another part and repeat the adjustment procedure as desired.

- The settings and effects of the PAN, EFFECT etc. may differ depending on the sound.

VOLUME

Adjust the volume of each part.

Use the VOL ∧ and ∨ buttons to adjust the volume (0 to 127).

- If you wish to adjust this effect for other parts, use the PART SELECT ∧ and ∨ buttons to select another part.

PAN

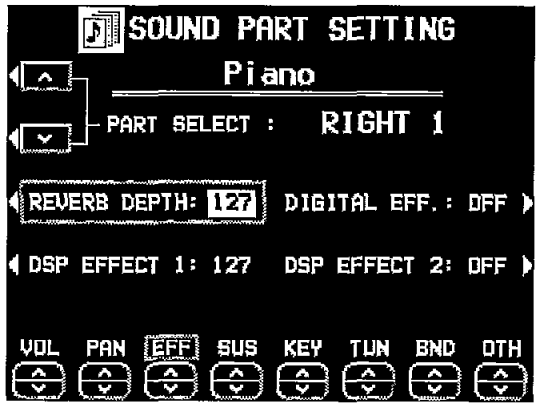
Adjust the stereo balance of each part.

Use the PAN ∧ and ∨ buttons to adjust the stereo balance (L64–CTR-R63).

- At L64, the sound is completely to the left, at R63 completely to the right. At CTR, the sound is at the center. The display indicates the selected position.
- If you wish to adjust this effect for other parts, use the PART SELECT ∧ and ∨ buttons to select another part.
- Even at the same numerical value, the stereo balance may differ slightly depending on the sound.

EFFECT

The **DIGITAL REVERB** depth, the DSP EFFECT 1 depth, and the **DIGITAL EFFECT** and DSP EFFECT 2 on/off status can be set for each part.


SOUND PART SETTING
Piano
PART SELECT : RIGHT 1
REVERB DEPTH: 127 DIGITAL EFF. : OFF
DSP EFFECT 1: 127 DSP EFFECT 2: OFF
VOL PAN EFF SUS KEY TUN BND OTH

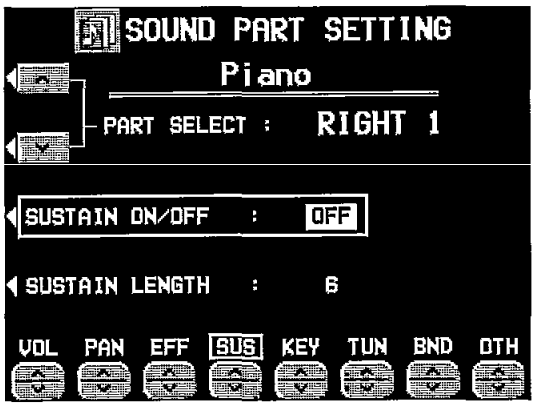
1. Select an effect (REVERB DEPTH, DSP EFFECT 1, 2 or DIGITAL EFF).

2. Use the EFF ∧ and ∨ buttons to change the setting.
   - For the REVERB DEPTH and DSP EFFECT 1, specify the depth (0 to 127). For the DIGITAL EFF and DSP EFFECT 2, set to ON or OFF.

3. Repeat steps 1 and 2 for the other effects, as necessary.
   - If you wish to adjust this effect for other parts, use the PART SELECT ∧ and ∨ buttons to select another part.
   - Even at the same numerical value, the effect may differ depending on the sound.

SUSTAIN

Turn the sustain on or off for each part, and specify the length of the sustain.



■ **Sustain on/off**

1. Select SUSTAIN ON/OFF.

2. Use the SUS ∧ and ∨ buttons to set the sustain to on or off.

■ **Sustain length**

1. Select SUSTAIN LENGTH.

2. Use the SUS ∧ and ∨ buttons to adjust the length of the sustain (1 to 8).
- For some sounds, the length of the sustain does not change even if the number is changed.

- If you wish to adjust this effect for other parts, use the PART SELECT ∧ and ∨ buttons to select another part.

KEY SHIFT

The pitch of the part can be shifted up or down.

Use the KEY ∧ and ∨ buttons to specify the amount of key shift (–24 to +24).
- A value of 1 means a shift of one semi-tone. To raise (or lower) the pitch one octave, set the value to +12 (or –12).
- The ∨ button is used to lower the pitch, and the ∧ button to raise the pitch.
- If you wish to adjust this effect for other parts, use the PART SELECT ∧ and ∨ buttons to select another part.

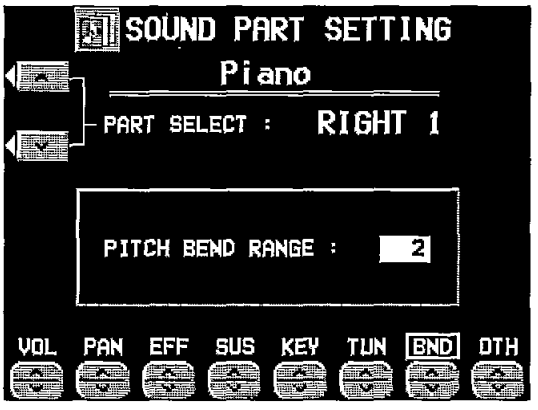
TUNING

Fine-tune the pitch of each part.

Use the TUN ∧ and ∨ buttons to adjust the tuning (–128 to +127).
- The ∨ button is used to lower the pitch, and the ∧ button to raise the pitch.
- If you wish to adjust this effect for other parts, use the PART SELECT ∧ and ∨ buttons to select another part.

PITCH BEND RANGE

Set the pitch range of the **PITCH BEND** wheel.

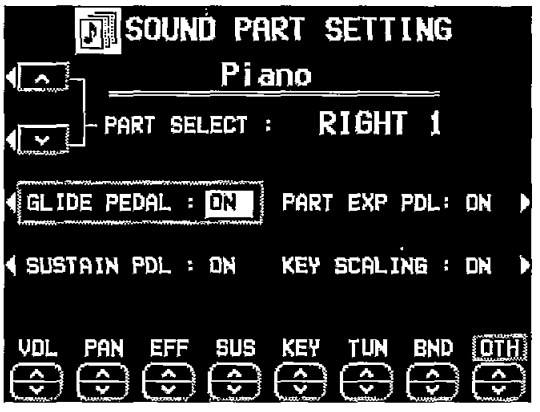


Use the BND ∧ and ∨ buttons to specify the range (0 to 12). Increments are in semi-tones.

- The higher the number, the greater the change in pitch when the **PITCH BEND** wheel is operated.
- If you wish to adjust this effect for other parts, use the PART SELECT ∧ and ∨ buttons to select another part.

OTHER SETTING

Modify the Foot Switch setting and other settings.


SOUND PART SETTING
Piano
PART SELECT : RIGHT 1
GLIDE PEDAL : ON
PART EXP PDL: ON
SUSTAIN PDL : ON
KEY SCALING : ON
VOL PAN EFF SUS KEY TUN BND OTH

1. Select the function to adjust.

GLIDE PEDAL:
Enable or disable the glide effect, if it has been assigned to the Foot Switch (sold separately).

SUSTAIN PEDAL:
Enable or disable the sustain effect, if it has been assigned to the Foot Switch (sold separately).

PART EXP PEDAL:
Enable or disable part expression by the expression pedal (sold separately).

- To enable the ON/OFF setting for each part, it is necessary to set EXPRESS. PEDAL to PART EXPRESSION on the FOOT CONTROLLERS display. (Refer to page 162.)

KEY SCALING:
Enable or disable key scaling (page 138).

2. Use the OTH ∧ and ∨ buttons to select ON or OFF for each function.

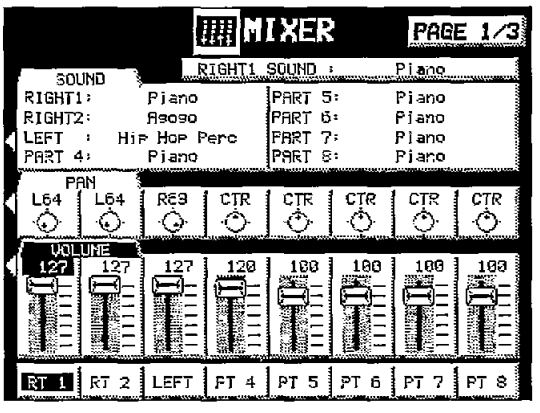
- For Foot Switch settings, refer to page 162.
- To change the settings for other parts, use the PART SELECT ∧ and ∨ buttons to select a different part.

Mixer

Use the MIXER display to visually adjust the major settings of each part. Use this display to make broad, general changes to the settings.

1. On the SOUND MENU display, select MIXER.
- The MIXER display consists of 3 pages. Use the **PAGE** buttons to switch among the pages.
- Each time the **OTHER PARTS/TR** button is pressed, the part setting display changes in the following order: RIGHT (RT) 1 to PART (PT) 8 → PART (PT) 9 to PART 16 → Accompaniment and other parts.

2. Adjust each parameter.



SOUND:

Select SOUND. Use the balance buttons below the display to set the sound for the corresponding part.

- The buttons in the **SOUND GROUP** can also be used to select the sound.

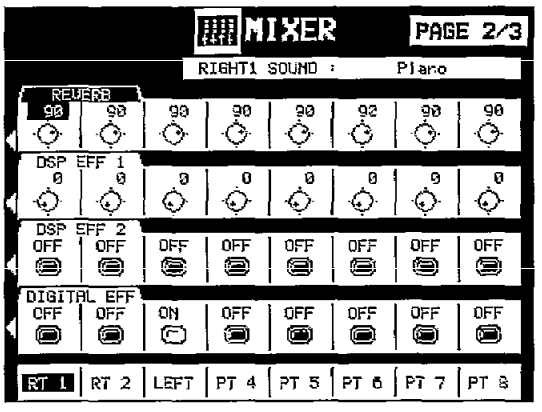
PAN:

Select PAN. Use the balance buttons below the display to adjust the stereo balance of the corresponding part (L64–CTR–R63).

VOLUME:

Select VOLUME. Use the balance buttons below the display to adjust the volume of the corresponding part (0 to 127).

- To mute a part, press both the corresponding balance buttons as the same time. To cancel the mute, press either balance button for the part.


MIXER
PAGE 2/3
RIGHT1 SOUND : Piano
REVERB
90 90 90 90 90 92 90 90
DSP EFF 1
0 0 0 0 0 0 0 0
DSP EFF 2
OFF OFF OFF OFF OFF OFF OFF OFF
DIGITAL EFF
OFF OFF ON OFF OFF OFF OFF OFF
RT 1 RT 2 LEFT PT 4 PT 5 PT 6 PT 7 PT 8

REVERB:

Select REVERB. Use the balance buttons below the display to set the level of the **DIGITAL REVERB** for the corresponding part (0 to 127).

DSP EFFECT 1:

Select DSP EFF 1. Use the balance buttons below the display to adjust the level of the **DSP EFFECT 1** for the corresponding part (0 to 127).

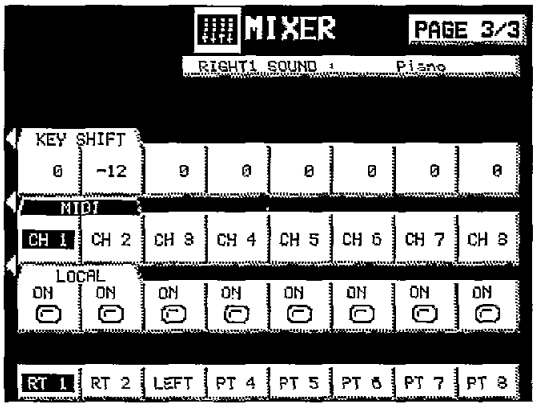
- In some cases, this setting may not be operative depending on the selected type of **DSP EFFECT 1**.

DSP EFFECT 2:

Select DSP EFF 2. Use the balance buttons below the display to set the **DSP EFFECT 2** to ON or OFF for the corresponding part.

DIGITAL EFFECT:

Select DIGITAL EFF. Use the balance buttons below the display to set the **DIGITAL EFFECT** to ON or OFF for the corresponding part.


MIXER
PAGE 3/3
RIGHT1 SOUND : Piano
KEY SHIFT
0 -12 0 0 0 0 0 0
MIDI
CH 1 CH 2 CH 3 CH 4 CH 5 CH 6 CH 7 CH 8
LOCAL
ON ON ON ON ON ON ON ON
RT 1 RT 2 LEFT PT 4 PT 5 PT 6 PT 7 PT 8

KEY SHIFT:

Select KEY SHIFT. Use the balance buttons below the display to adjust the shift width of the output pitch of each part (in semitone increments; –24 to +24).

MIDI:

Select MIDI. Use the balance buttons below the display to set the MIDI channel for each part (CH1–CH16).

- Information about MIDI channels can be found on page 166.

LOCAL:

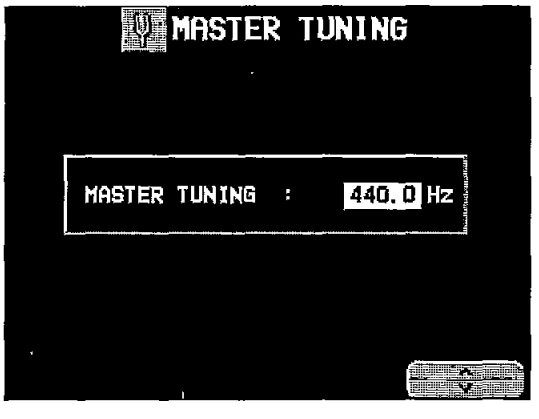
Select LOCAL. Use the balance buttons below the display to turn LOCAL CONTROL ON or OFF for each part.

- Even at the same numerical value, the PAN and effects may differ depending on the sound.
- For some parts, such as the automatic accompaniment parts, the items that can be adjusted are limited.

Master Tuning

This setting is used to fine-tune the pitch of the entire instrument. This is convenient when the Keyboard is played with other instruments or with a recorded performance.

1. On the SOUND MENU display, select MASTER TUNING.
- The display changes to the following.

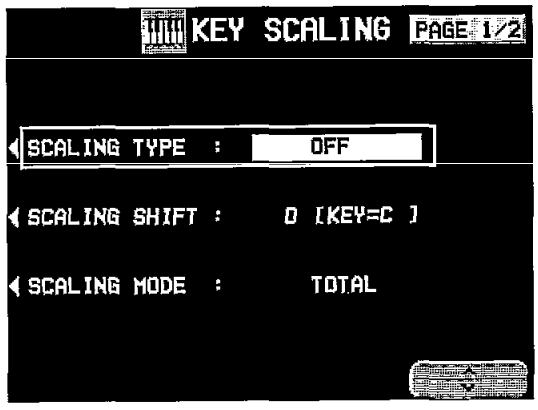


2. Use the ∧ and ∨ buttons to adjust the pitch within a range of 427.3 to 453.0 Hz.
- The decimal can be set to 0, 3 or 6.

Key Scaling

The type of tuning for this instrument can be changed. In addition to standard (equal temperament) tuning, other types of scaling are available.

1. On the SOUND MENU display, select KEY SCALING.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select the function you wish to adjust.
- You can use the SOUND EDIT feature to adjust the KEY SCALING for each sound. (Refer to page 146.)

SCALING TYPE
Select the type of scaling (tuning) from OFF, RANDOM, PIANO, ORCHESTRA, PYTHAGOREAN, WERCKMEISTER, KIRNBERGER, ARABIC 1 to 5, SLENDRO, PELOG, USER.
- Select OFF for the normal scaling. Select USER if you wish to use a customized scaling (see below).

SCALING SHIFT
Select the key on which the tuning will be based.
- Set to the key in which you are going to perform.

SCALING MODE (TOTAL/SOUND)
TOTAL: The selected KEY SCALING is active for all parts.
SOUND: The KEY SCALING defined for each sound is active.

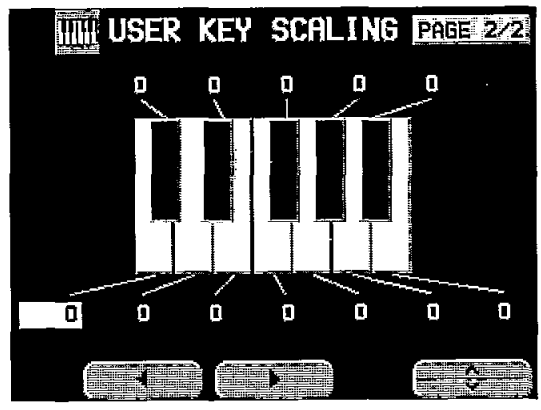
3. Use the ∧ and ∨ buttons to change the setting.

■ **User type scaling**
You can adjust the instrument to a customized scaling.
- In KEY SCALING, the pitch of each note of the octave is slightly shifted up or down from the standard (equal temperament) tuning.

1. Select USER for SCALING TYPE.

2. Select TOTAL for SCALING MODE.

3. Use the **PAGE** buttons to access the 2/2 USER KEY SCALING display.
- The display looks similar to the following.

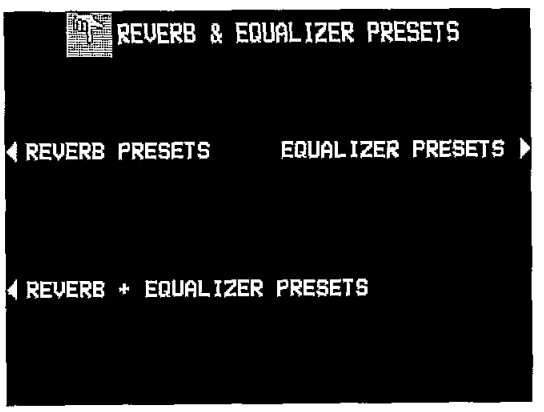


4. Adjust the scaling.
- Use the ◀ and ▶ buttons to select a keyboard key; use the ∧ and ∨ buttons to adjust the pitch for the selected key. Repeat these steps for each keyboard key, as desired.
- Increments are in cents (one hundredth of an equal-tempered semitone). A + value raises the pitch and a – value lowers the pitch in relation to standard (equal temperament) tuning.

Reverb & Equalizer Presets

You can select preset **DIGITAL REVERB** and equalizer settings for this instrument. This convenient feature gives you exactly the sound you want without going through complicated procedures.

1. On the SOUND MENU display, select REVERB & EQ PRESETS.
- The display looks similar to the following.



2. Select a preset type.

REVERB PRESETS:
Presets for the **DIGITAL REVERB**.

EQUALIZER PRESETS:
Presets for the equalizer.

REVERB + EQUALIZER PRESETS:
Presets used for both the **DIGITAL REVERB** and the equalizer.

3. Select the desired preset settings.
- The display looks similar to the following.

- For the EQUALIZER PRESETS and the REVERB + EQUALIZER PRESETS, the EQ button can be used to turn the equalizer function on or off.

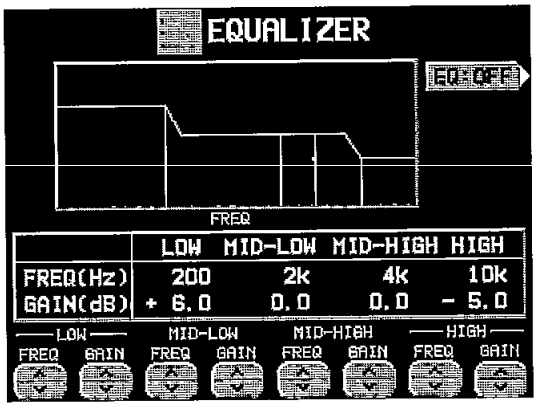
Equalizer

You can apply a 4-band equalizer to the final output of this instrument.

- The equalizer is applied to both the L and R outputs.

1. On the SOUND MENU display, select EQUALIZER.

- The display looks similar to the following.

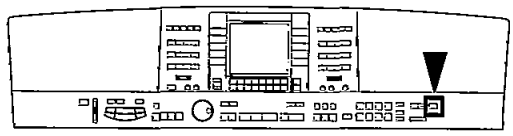


2. Use the buttons below the display to select the sound quality for the four sound ranges (LOW, MID-LOW, MID-HIGH, HIGH).

- Use the FREQ ∧ and ∨ buttons to adjust the standard frequency (Hz), and the GAIN ∧ and ∨ buttons to adjust the level gain (decibels).
- The EQ button can be used to turn the equalizer on or off.
- Depending on the selected sound, if you set a very high GAIN setting, the sound may be distorted. In this case, lower the GAIN setting, or lower the volume setting of the part.

Part VIII Sound Edit

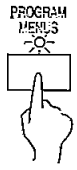
Outline of the Sound Edit



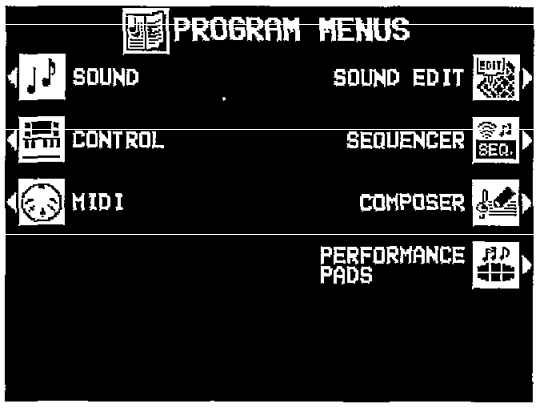
SOUND EDIT enables you to create your own new sound by altering one of the this instrument's preset sounds. Your new sound can be stored in one of the sound memory locations. SOUND EDIT has two methods of use. You can edit in detail using functions more commonly associated with a synthesizer, or you can use EASY EDIT which allows you to change some basic parameters on one page.

1. Select a sound to edit.
- To edit **DRUM KITS** sound, refer to page 158.
- To reserve the **DIGITAL DRAWBAR (KN1600)** settings, refer to page 160.

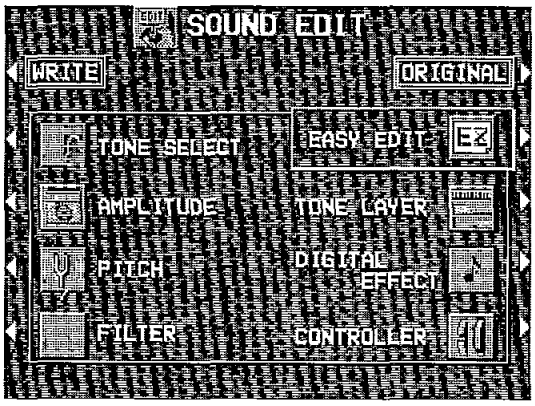
2. Turn on the **PROGRAM MENUS** button.



- The display looks similar to the following.



3. Select SOUND EDIT.
- The display looks similar to the following.



- SOUND EDIT does not function when GENERAL MIDI is set to ON.

Summary of the SOUND EDIT menu items

EASY EDIT (page 142)
The most often used edit functions—such as brightness and attack speed—are assembled on one display for easy sound modification.

TONE SELECT (page 143)
Modify the tones which make up the sound.

TONE LAYER (page 145)
Specify how the tones are assigned to the keyboard keys.

PITCH (page 146)
Adjust the settings related to the pitch of the sound.

FILTER (page 149)
Adjust the amount of frequency cut in specific frequency ranges.

AMPLITUDE (page 152)
Volume settings, such as the sound envelope.

DIGITAL EFFECT (page 155)
Select the type and degree of effects applied to the sound.

CONTROLLER (page 156)
Specify how wheel operation etc. affects the sound.

4. Select the desired menu and follow the procedures on the corresponding setting display.
- To check the sound of a single tone, press the SOLO button to highlight the SOLO indication. Only the currently selected tone sounds when a key is played.
- When the **TEMPO/PROGRAM** indicator is lit, it indicates that the **TEMPO/PROGRAM** is available for setting the current function.
- The sounds created with the SOUND EDIT are also affected by the settings adjusted in the other SOUND menus (refer to "Part VII: Sound").

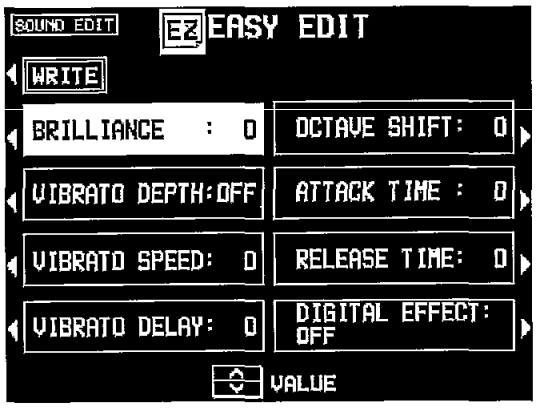
5. When the sound is just the way you like it, press the **EXIT** button to return to the menu display, and press the WRITE button to store your new sound.

- Press the EDITED (or ORIGINAL) button to switch between the modified sound (EDITED) and the original sound (ORIGINAL). This allows you to compare the edited sound to the original sound as you are modifying it.

Easy Edit

The most commonly used edit functions are consolidated on one display, providing convenient and quick editing operation.

1. On the SOUND EDIT menu display, select EASY EDIT.
- The display changes to the following.



2. Select a sound attribute to modify.

3. Use the VALUE ∧ and ∨ buttons to specify the value of the attribute.
- Selecting the type of **DIGITAL EFFECT** is explained in the section on EFFECT EDIT (page 155).
- An effect may remain unchanged when EASY EDIT is used to set the value, if another EDIT function was first used to set the value to its upper or lower limit.

4. Repeat steps 2 and 3 to modify other sound attributes as desired.

5. Press the WRITE button to store your new sound.
- *Storing your new sound is explained on page 157.*
- If a sound is stored in the EASY EDIT mode, and is later selected in the EASY EDIT mode, the displayed value of an attribute may be different from the value when it was stored. The sound itself, however, is exactly as it was stored.

Easy Edit items

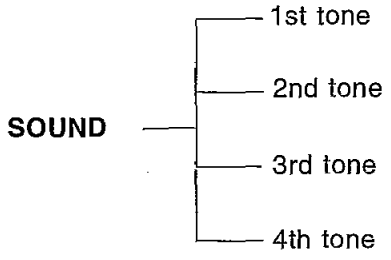
BRILLIANCE:
Adjust the brightness of the sound (–10 to +10).
VIBRATO DEPTH:
Set vibrato depth (OFF, –10 to +10).
VIBRATO SPEED:
Set vibrato speed (–10 to +10).
VIBRATO DELAY:
Set time delay between key played and vibrato start (–10 to +10).
OCTAVE SHIFT:
Shift the octave range (–2 to +2).
ATTACK TIME:
Adjust attack time (–10 to +10).
RELEASE TIME:
Adjust time of sound fade-out after key is released (–10 to +10).
DIGITAL EFFECT:
Select type of effect.

Tone Edit

Modify the separate tones which comprise the sound.

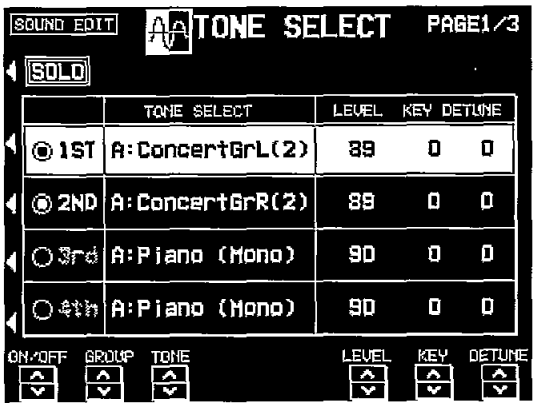
About tones

A sound may be made up of at most four tones.



TONE SELECT

1. On the SOUND EDIT menu, select TONE SELECT.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select the tone you wish to edit (1st, 2nd, 3rd, 4th).

3. Use the ON/OFF ∧ and ∨ buttons to select ON or OFF.
- ◉ indicates that the tone is on, and ○ indicates that it is off.
- Tones which are set to OFF are not produced.

4. Select a sound for the tone.
- Use the GROUP ∧ and ∨ buttons to select the group, and the TONE ∧ and ∨ buttons to select the sound.
- A list of tone sounds can be found in the separate "REFERENCE GUIDE" provided.

5. Use the LEVEL ∧ and ∨ buttons to adjust the volume (0 to 127).

6. Use the KEY ∧ and ∨ buttons to set the output pitch (–24 to +24).
- Increments are in semitones.

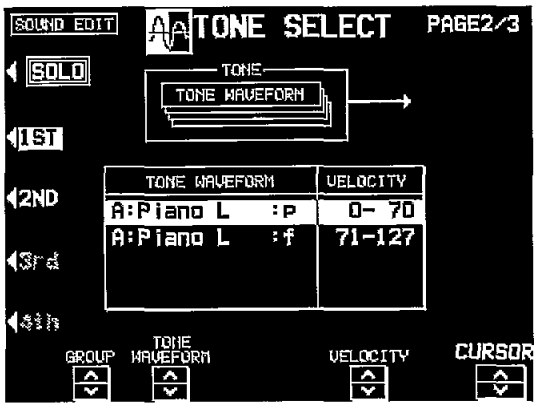
7. Use the DETUNE ∧ and ∨ buttons to make fine adjustments to the pitch (–50 to +50).

8. Repeat steps 2 to 7 for the other tones, as desired.

■ TONE WAVEFORM

One tone may consist of up to four TONE WAVEFORMs. You can adjust the settings so that a different sound (tone waveform) is output for each tone depending on the velocity (how hard the keys are played).

1. Use the **PAGE** buttons to view the 2/3 display.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone.

3. Use the CURSOR ∧ and ∨ buttons to select the column for the function you wish to adjust.

4. Select the tone waveform.
- Use the GROUP ∧ and ∨ buttons to select the sound group. Use the TONE WAVEFORM ∧ and ∨ buttons to select the waveform.
- A TONE list can be found in the separate REFERENCE GUIDE provided.

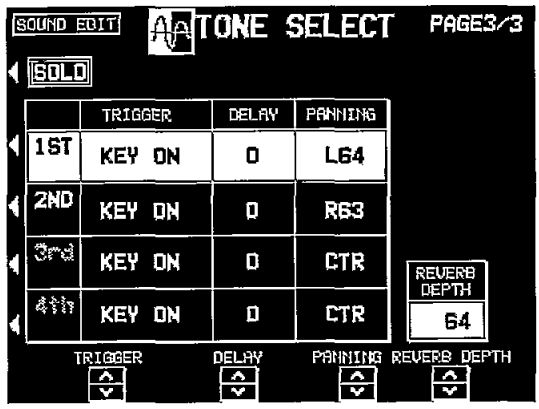
5. Use the VELOCITY ∧ and ∨ buttons to specify the velocity range.
- When the upper limit of a waveform is set to 127, no more waveforms can be added.

6. *Repeat steps 3 to 5 to edit the other* waveforms, as desired.
- Up to four waveforms can be set, with a different sound for each velocity range.

7. Repeat steps 2 to 6 for the other tones, as desired.

■ Other settings

1. Use the **PAGE** buttons to view the 3/3 display.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone.

3. Use the TRIGGER ∧ and ∨ buttons to select a trigger mode.

KEY ON:
The normal mode, in which sound is emitted when the key is played.

KEY OFF:
Sound is emitted when the key is released (like plucked strings, for example).

PEDAL:
The sound is produced only while the **SUSTAIN** button is on.

CHORD:
The sound is emphasized when chords are played (like the cutting sound of a guitar, for example).

4. Use the DELAY ∧ and ∨ buttons to adjust the delay time of the sound (0 to 50).
- The higher the number, the longer the delay before sound output.

5. Use the PANNING ∧ and ∨ buttons to adjust the stereo balance (L64–CTR–R63).
- *CTR is the center point. At L64, the sound is* all the way to the left, at R63 all the way to the right.

6. Use the REVERB DEPTH ∧ and ∨ buttons to adjust the depth of the reverb (0 to 127).

7. Repeat steps 2 to 6 for the other tones, as desired.

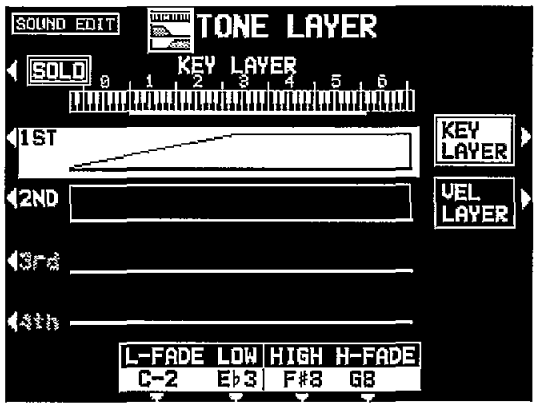
TONE LAYER

On the SOUND EDIT menu display, select TONE LAYER.

■ KEY LAYER

Adjust the relation of tone output to keyboard location.

1. Press the KEY LAYER button.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone (1st, 2nd, 3rd or 4th).

3. Use the L-FADE ∧ and ∨ buttons and the LOW ∧ and ∨ buttons to define the curve for the lower range of tone output.
- By entering different values for the L-FADE and LOW setting, you can define a sloping volume increase to the peak output volume which corresponds to the note pitch.

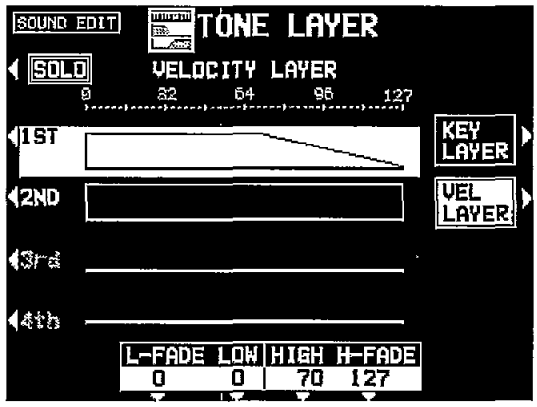
4. Use the HIGH ∧ and ∨ buttons and the H-FADE ∧ and ∨ buttons to define the curve for the higher range of tone output.
- By entering different values for the H-FADE and HIGH settings, you can define a sloping volume decrease from the peak output which corresponds to the note pitch.
- By overlapping the L-FADE and H-FADE curves of each different tone, you can achieve a cross-fade effect, where the sound gradually changes in relation to pitch.

5. Repeat steps 2 to 4 for the other tones, as desired.

■ VELOCITY LAYER

Adjust these settings to regulate the tone output relative to the velocity.

1. Press the VEL LAYER button.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone (1st, 2nd, 3rd or 4th).

3. Use the L-FADE ∧ and ∨ buttons and the LOW ∧ and ∨ buttons to define the velocity curve for the lower range.

4. Use the HIGH ∧ and ∨ buttons and the H-FADE ∧ and ∨ buttons to define the velocity curve for the higher range.
- By overlapping the L-FADE and H-FADE curves of each different tone, you can change the way the tone sounds relative to how hard or softly the keyboard is played.

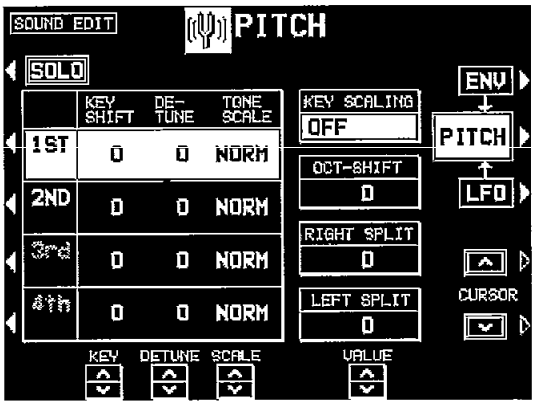
5. Repeat steps 2 to 4 for the other tones, as desired.

Pitch Edit

Adjust the settings related to the pitch of the sound.

PITCH

1. On the SOUND EDIT menu display, select PITCH.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone (1st, 2nd, 3rd or 4th).

3. Use the KEY ∧ and ∨ buttons to specify the output pitch (–24 to +24).
- Units are in semitones.

4. Use the DETUNE ∧ and ∨ buttons to fine-adjust the pitch (–50 to +50).
- Slight differences in the DETUNE values between the tones add fullness to the sound.

5. Use the SCALE ∧ and ∨ buttons to select the type of scale (NORM, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64, FIX).
- NORM is the normal scale type. For example, when 1/2 is selected, a difference in pitch between one key and the adjacent key becomes half the normal pitch difference. When FIX is selected, the pitch is the same regardless of which key is played.

6. Select the type of scaling (tuning).
- Use the CURSOR ∧ and ∨ buttons to select KEY SCALING. Use the VALUE ∧ and ∨ buttons to change the setting.
- Key scaling is explained on page 138.

7. Set the octave of the sound.
- Use the CURSOR ∧ and ∨ buttons to select OCT-SHIFT. Use the VALUE ∧ and ∨ buttons to change the setting (–2 to +2).

8. Set the octave of the right part when the keyboard is split.
- Use the CURSOR ∧ and ∨ buttons to select RIGHT SPLIT. Use the VALUE ∧ and ∨ buttons to change the setting (–2 to +2).

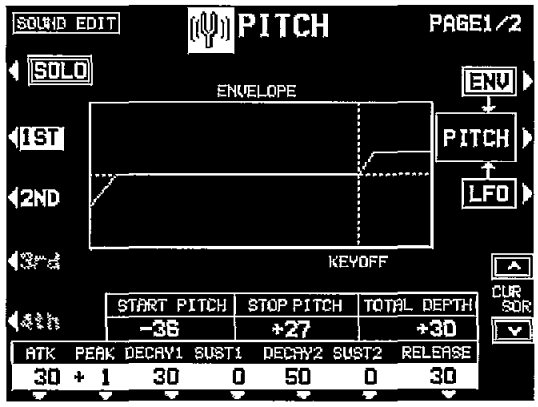
9. Set the octave of the left part when the keyboard is split.
- Use the CURSOR ∧ and ∨ buttons to select LEFT SPLIT. Use the VALUE ∧ and ∨ buttons to change the setting (–2 to +2).

10. Repeat steps 2 to 9 for the other tones, as desired.

■ ENVELOPE

Specify how the pitch changes over time, from the time the key is played to the time the sound dies out.

1. Press the ENV button.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone.

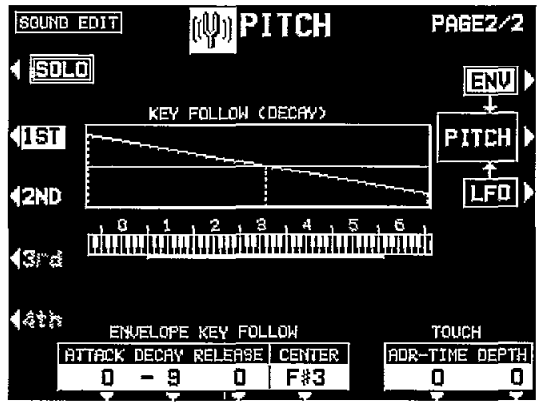
3. Adjust the settings for the pitch change envelope.
- Use the buttons below the display to set the corresponding values. The envelope is created on the display as you input the settings.
- Use the CURSOR ∧ and ∨ buttons switch between the upper row and lower row items.
- Use the TOTAL DEPTH ∧ and ∨ buttons to specify the maximum level (–50 to +50).

4. Repeat steps 2 and 3 for the other tones, as desired.

<ENVELOPE KEY FOLLOW>

Specify how the pitch envelope changes in relation to note pitch.

1. Use the **PAGE** buttons to view the 2/2 display.



2. Use the buttons to the left of the display to select a tone.

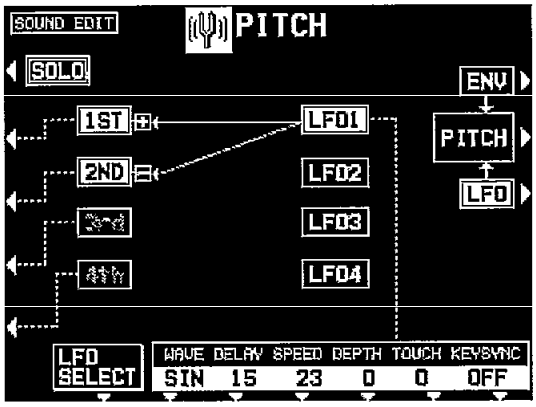
3. Change the key follow settings for the ATTACK, DECAY and RELEASE.
- Use the ∧ and ∨ buttons corresponding to the ENVELOPE KEY FOLLOW attributes to adjust the settings (–50 to +50). Use the CENTER ∧ and ∨ buttons to select the center of the bend direction.

4. Change the touch settings.
- Use the ADR-TIME ∧ and ∨ buttons to specify the time change depending on touch (–50 to +50). Use the DEPTH ∧ and ∨ buttons to specify the pitch change level depending on touch (–50 to +50).
- At a – setting, the softer the keys are pressed, the greater the change. At a + setting, the harder the keys are pressed, the greater the change.

■ LFO

Adjust the pitch LFO (cyclic modulation) settings. There are four types of LFO.

1. Press the LFO button.
- The display looks similar to the following.



2. Use the LFO SELECT ∧ and ∨ buttons to select an LFO (1–4).

3. Use the buttons below the display to adjust the settings.

WAVE
Modulate the waveform.
SIN: Sine wave
TRI: Triangle wave
SQR: Square wave
SAW: Saw tooth wave

DELAY
Delay time is the time elapsed from when the keyboard key is pressed until the modulation begins (0 to 30).

SPEED
Modulation speed (0 to 127)

DEPTH
Modulation depth (0 to 127)

TOUCH
Degree of modulation change in relation to touch (0 to 50).

KEYSYNC
When playing more than one note, specify whether the LFO starts or not each time a key is pressed (ON/OFF).
- When KEYSYNC is set to ON: if, while playing one note, you play a second note, the LFO is applied to the second note as well.

4. Use the buttons to the left of the display to specify for each tone whether or not the specified LFO is applied.
- The LFO can be applied to multiple tones.
- A + indicates that the LFO is on for the tone, a – indicates that the inverted-phase LFO is applied to the tone.

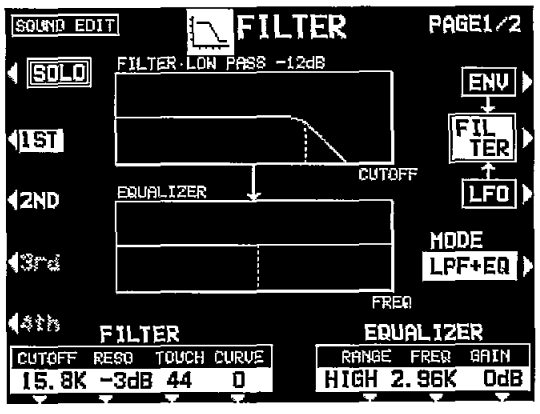
5. Repeat steps 2 to 4 for the other LFO types, as desired.

Filter Edit

Make major changes to the sound by eliminating specific frequency ranges.

FILTER

1. On the SOUND EDIT menu, select FILTER.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone.

3. Use the MODE button to select the filter mode.

LPF+EQ (low-pass filter + equalizer)
Signals higher than the cut-off frequency are cut. Normal sounds are softened.

HPF+EQ (high-pass filter + equalizer)
Signals lower than the cut-off frequency are cut. Normal sounds are sharpened.

LPF24 (low-pass filter 24)
A stronger low-pass filter than LPF+EQ.

HPF24 (high-pass filter 24)
A stronger high-pass filter than HPF+EQ.

BPF (band-pass filter)
Cuts all signals which are not in the range close to the cut-off frequency. The sound has a distinctive character.

THRU
No filter effect is applied.

4. Use the buttons below the display to adjust the filter attributes.

CUTOFF
Set the frequency range which is cut by the filter.
- The cut-off frequency is the standard frequency which is cut by the filter.

RESO
Specify the resonance value (dB).
- Resonance is effect which adds character to the sound by emphasizing the harmonic components of frequencies close to the cut-off frequency.

TOUCH
Specify the degree of change relative to keyboard touch.

CURVE
Specify the type of curve relative to keyboard touch.

<Equalizer>
For LPF+EQ/HPF+EQ filters, the sound quality can be modified by the EQUALIZER.

RANGE
Select the setting range (HIGH or LOW).

FREQ
Set the standard frequency.

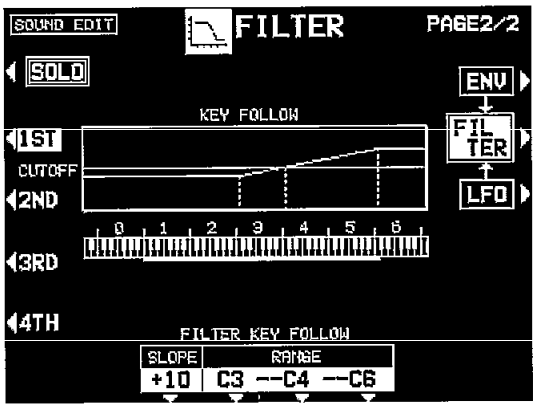
GAIN
Set the level increase or decrease from the value set for FREQ (dB).

5. Repeat steps 2 to 4 for each tone, as desired.

■ FILTER KEY FOLLOW

Specify how the filter changes in relation to note pitch.

1. Use the **PAGE** buttons to view the 2/2 display.



2. Use the buttons to the left of the display to select a tone.

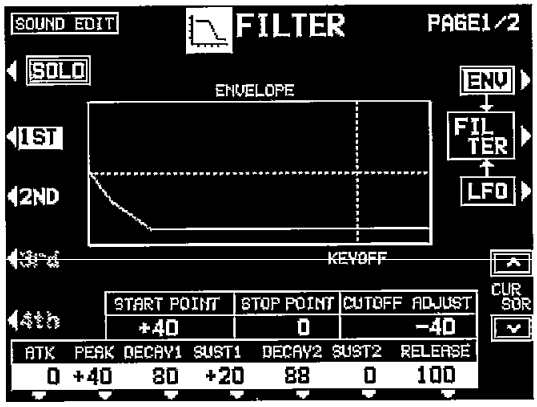
3. Change the key follow settings.
- Use the SLOPE ∧ and ∨ buttons to adjust the bend slope (–50 to +50). Use the RANGE ∧ and ∨ buttons to specify the pitch range by note name. The center setting defines the bend direction.

4. Repeat steps 2 and 3 for the other tones, as desired.

■ ENVELOPE

Specify how the filter changes over time, from the time the key is played to the time the sound dies out.

1. Press the ENV button.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone.

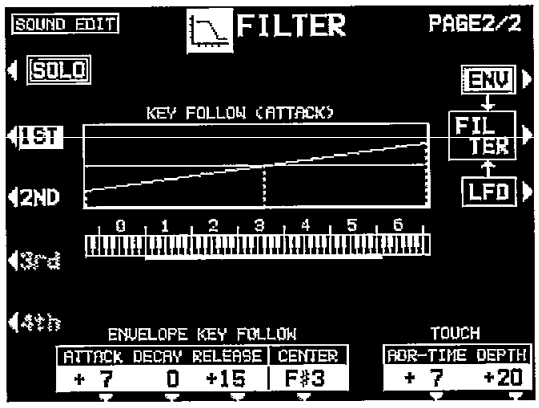
3. Adjust the settings for the filter envelope.
- Use the buttons below the display to set the corresponding values. The envelope is created on the display as you input the settings.
- Use the CURSOR ∧ and ∨ buttons switch between the upper row and lower row items.
- Use the CUTOFF ADJUST ∧ and ∨ buttons to move the entire graph up or down to change the amount of filter effect (–50 to +50).

4. Repeat steps 2 and 3 for the other tones, as desired.

<ENVELOPE KEY FOLLOW>

Specify how the filter changes relative to note pitch over time.

1. Use the **PAGE** buttons to view the KEY FOLLOW display.



2. Use the buttons to the left of the display to select a tone.

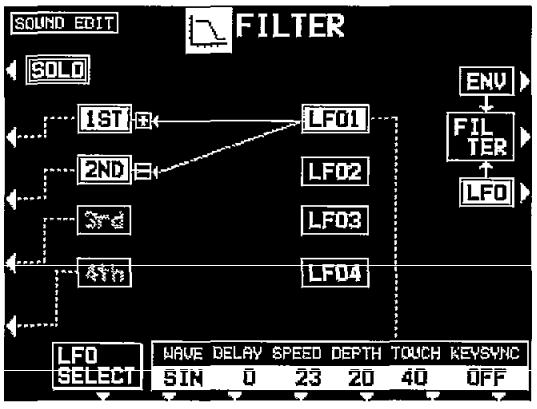
3. Change the key follow settings for the ATTACK, DECAY and RELEASE.
- Use the ∧ and ∨ buttons corresponding to the ENVELOPE KEY FOLLOW attributes to adjust the settings (–50 to +50). Use the CENTER ∧ and ∨ buttons to select the center of the bend direction.

4. Change the touch settings.
- Use the ADR-TIME ∧ and ∨ buttons to specify the time change depending on touch (–50 to +50). Use the DEPTH ∧ and ∨ buttons to specify the pitch change level depending on touch (–50 to +50).
- At a – setting, the softer the keys are pressed, the greater the change. At a + setting, the harder the keys are pressed, the greater the change.

■ LFO

Adjust the LFO (cyclic modulation) settings applied to the filter. There are four types of LFO.

1. Press the LFO button.
- The display looks similar to the following.



2. Use the LFO SELECT ∧ and ∨ buttons to select an LFO (1–4).

3. Use the buttons below the display to adjust the settings.

WAVE
Modulate the waveform.
SIN: Sine wave
TRI: Triangle wave
SQR: Square wave
SAW: Saw tooth wave

DELAY
Delay time is the time elapsed from when the keyboard key is pressed until the modulation begins (0 to 30).

SPEED
Modulation speed (0 to 127).

DEPTH
Modulation depth (0 to 127).

TOUCH
Degree of modulation change in relation to touch (0 to 50).

KEYSYNC
When playing more than one note, specify whether the LFO starts or not each time a key is pressed (ON/OFF).
- When KEYSYNC is set to ON: if, while playing one note, you play a second note, the LFO is applied to the second note as well.

4. Use the buttons to the left of the display to specify for each tone whether or not the specified LFO is applied.
- The LFO can be applied to multiple tones.
- A + indicates that the LFO is on for the tone, a – indicates that the inverted-phase LFO is applied to the tone.

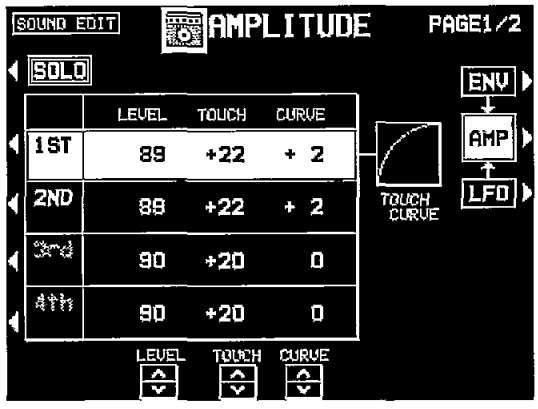
5. Repeat steps 2 to 4 for the other LFO types, as desired.

Amplitude Edit

Adjust the settings related to the volume of the sound.

AMPLITUDE

1. On the SOUND EDIT menu, select AMPLITUDE.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone.

3. Use the LEVEL ∧ and ∨ buttons to select the volume (0 to 127).

4. Use the TOUCH ∧ and ∨ buttons to set the amount of volume change in relation to how hard the keyboard is played (–50 to +50).
- At a – value, the softer the keyboard is played, the louder the sound. At a + value, the harder the keyboard is played, the louder the sound.

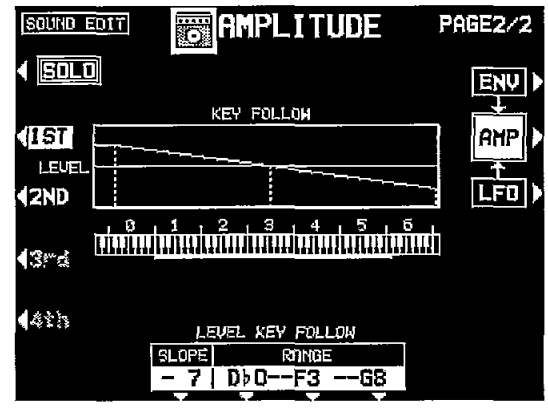
5. Use the CURVE ∧ and ∨ buttons to select the type of volume curve depending on touch (–3 to +3).

6. Repeat steps 2 to 5 for the other tones, as desired.

■ AMPLITUDE KEY FOLLOW

Specify how the volume changes in relation to note pitch.

1. Use the **PAGE** buttons to view the 2/2 display.



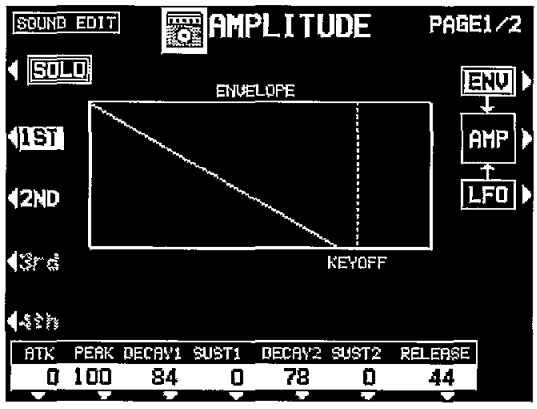
2. Use the buttons to the left of the display to select a tone.

3. Change the key follow settings.
- Use the SLOPE ∧ and ∨ buttons to adjust the bend slope (–50 to +50). Use the RANGE ∧ and ∨ buttons to specify the pitch range by note name. The center setting defines the bend direction.

■ ENVELOPE

Specify how the volume changes over time, from the time the key is played to the time the sound dies out.

1. Press the ENV button.
- The display looks similar to the following.



2. Use the buttons to the left of the display to select a tone.

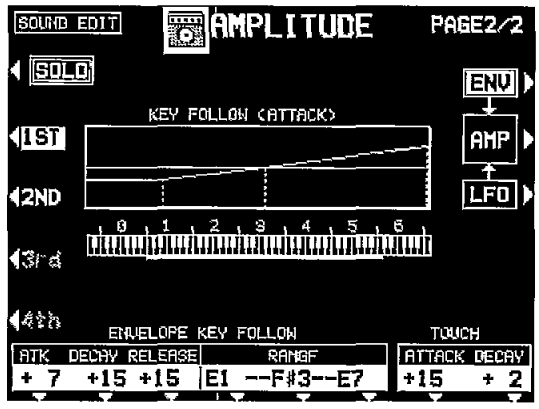
3. Adjust the settings for the volume envelope.
- Use the buttons below the display to set the corresponding values. The envelope is created on the display as you input the settings.

4. Repeat steps 2 and 3 for the other tones, as desired.

<ENVELOPE KEY FOLLOW>

Specify how the volume changes relative to note pitch over time.

1. Use the **PAGE** buttons to view the 2/2 display.



2. Use the buttons to the left of the display to select a tone.

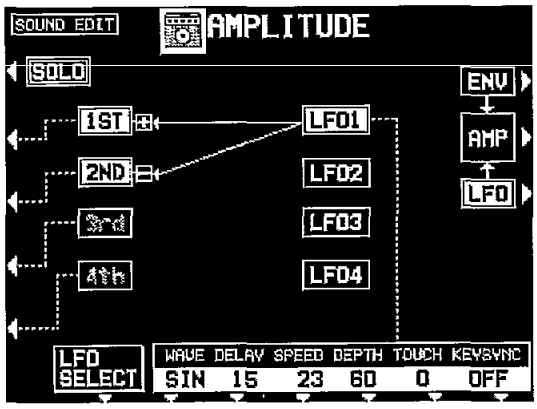
3. Change the key follow settings for the ATTACK, DECAY and RELEASE.
- Use the ∧ and ∨ buttons corresponding to the ENVELOPE KEY FOLLOW attributes to adjust the settings (–50 to +50). Use the RANGE buttons to specify the keyboard range.

4. Change the touch settings.
- Use the ATTACK ∧ and ∨ buttons to specify the ATTACK time change depending on touch (–50 to +50). Use the DECAY ∧ and ∨ buttons to specify the DECAY time change depending on touch (–50 to +50).
- At a – setting, the softer the keys are pressed, the greater the change. At a + setting, the harder the keys are pressed, the greater the change.

■ LFO

Adjust the LFO (cyclic modulation) settings applied to the amplitude. There are four types of LFO.

1. Press the LFO button.
- The display looks similar to the following.



2. Use the LFO SELECT ∧ and ∨ buttons to select an LFO (1–4).

3. Use the buttons below the display to adjust the settings.

WAVE
Modulate the waveform.
SIN: Sine wave
TRI: Triangle wave
SQR: Square wave
SAW: Saw tooth wave

DELAY
Delay time is the time elapsed from when the keyboard key is pressed until the modulation begins (0 to 30).

SPEED
Modulation speed (0 to 127)

DEPTH
Modulation depth (0 to 127)

TOUCH
Degree of modulation change in relation to touch (0 to 50)

KEYSYNC
When playing more than one note, specify whether the LFO starts or not each time a key is pressed (ON/OFF).
- When KEYSYNC is set to ON: if, while playing one note, you play a second note, the LFO is applied to the second note as well.

4. Use the buttons to the left of the display to specify for each tone whether or not the specified LFO is applied.
- The LFO can be applied to multiple tones.
- A + indicates that the LFO is on for the tone, a – indicates that the inverted-phase LFO is applied to the tone.

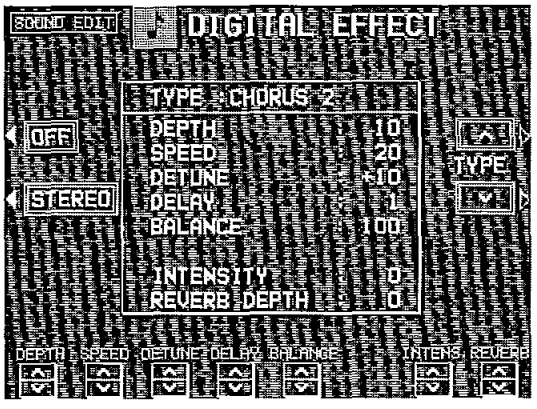
5. Repeat steps 2 to 4 for the other LFO types, as desired.

Effect Edit

Select the type of effect which is applied to your new sound when the **DIGITAL EFFECT** button is on, and modify the effect.

DIGITAL EFFECT

1. On the SOUND EDIT menu, select DIGITAL EFFECT.
- The display looks similar to the following.
- The display for the effect type which is best-suited for the sound currently being edited is selected.



2. Use the TYPE ∧ and ∨ buttons to select the type of effect.
- Select from the following types:
  CELESTE 1, 2, CHORUS 1, 2, ENSEMBLE 1, 2, TREMOLO, ORGAN TREMOLO, SINGLE DELAY, REPEAT DELAY, SOLO EFFECT 1, 2.

<ON/OFF button>
Specify whether the **DIGITAL EFFECT** button turns on or off when the sound is selected. When set to ON, the **DIGITAL EFFECT** button turns on automatically when the sound is selected. The button alternates between ON and OFF each time it is pressed.

<STEREO/MONO button>
Select stereo (STEREO) or monaural (MONO) output of the effect. The button alternates between STEREO and MONO each time it is pressed.

3. Use the buttons along the bottom of the display to select the attribute you wish to adjust.

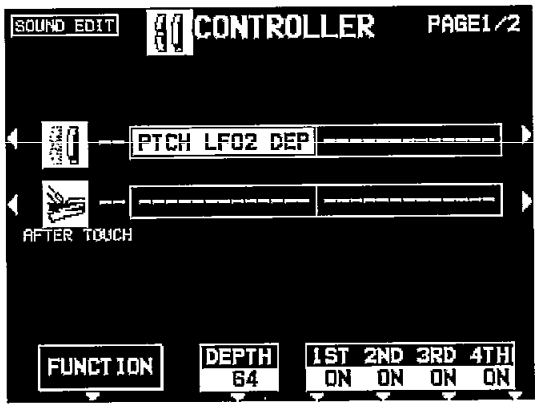
- When the type is changed, the parameters revert to the factory defaults.
- For a detailed explanation of the parameters of each type of effect, refer to the separate REFERENCE GUIDE provided.

Controller Edit

Specify how operation of the controllers, such as the wheels, etc., affects the sound.

CONTROLLER

1. On the SOUND EDIT menu display, select CONTROLLER.
- The display looks similar to the following.



2. Use the buttons to the left and right of the display to select a controller.
- The controllers are in order from the top: MODULATION WHEEL, AFTER TOUCH.
- Two functions can be assigned to each controller.
- This setting is for when AFTER TOUCH data is loaded from a disk or received through MIDI.
- **KN1400**: This setting is for when MODULATION data is loaded from a disk or received through MIDI.

3. Use the FUNCTION button to select a function for the controller.

4. Use the DEPTH ∧ and ∨ buttons to set the depth of the function applied by the controller (0 to 127).

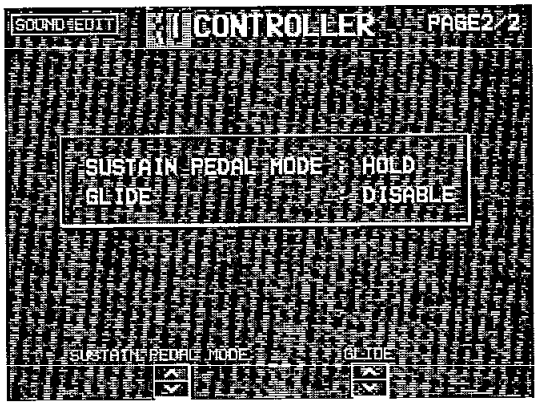
5. Use the 1st, 2nd, 3rd and 4th ∧ and ∨ buttons to set the controller to on or off for each tone.
- When set to INV, the function is inverted for the tone.

6. Repeat steps 2 to 5 for the other controllers, as desired.

■ SUSTAIN PEDAL MODE, GLIDE

This setting is for when the sustain function or glide function has been assigned to the foot switch.

1. Use the **PAGE** buttons to view the 2/2 display.



2. Use the SUSTAIN PEDAL MODE ∧ and ∨ buttons to select the type of sustain.

LONG:
The release time of the sound is lengthened.

HOLD:
The sustain is continuous until the foot switch is released.

3. Use the GLIDE ∧ and ∨ buttons to select whether or not the glide effect is active.

ENABLE:
The glide effect is enabled.

DISABLE:
The glide effect is disabled.

- To assigning a function to the foot switch, refer to page 162.

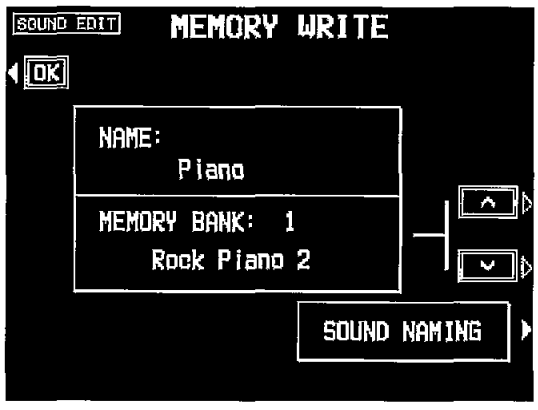
Store the new sound

The **MEMORY** button in the **SOUND GROUP** section accesses memory banks reserved for the sounds you create with the SOUND EDIT. You can store up to 40 original sounds then select the sounds just like the other sounds in the **SOUND GROUP**.

WARNING: Your new sound will be erased if you exit the SOUND EDIT mode without first storing it in a memory.

Procedure

1. When you have edited the sound to just the way you like it, on the SOUND EDIT menu display, press the WRITE button.
- The display changes to the MEMORY WRITE display.



2. To assign a name to your new sound, press the SOUND NAMING button.
- If you do not assign a name to your sound, the name becomes the same as the original sound from which you started. In this case, skip to step 5.
- The display changes to the SOUND NAMING display.

3. Type a new name for your sound (up to 16 characters).
- Use the POSITION buttons to highlight the character position in the name box. Use the ABC...]( ) buttons to select the alphanumeric character. Repeat these steps to type the whole name.
- Use the INS button to type a space.
- Use the DEL button to erase a character.
- Use the A/a button to switch between upper case and lower case characters.
- To erase all the characters, press the CLR button.
- You can press the →← button if you wish to have the name centered.

4. When you have finished typing the name, press the WRITE button.
- The display returns to the MEMORY WRITE display.

5. Use the ∧ and ∨ buttons to select the MEMORY number in which to store the new sound (1–40).

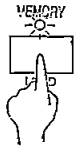
6. Press the OK button.
- The new sound is stored, and "COMPLETED!" is shown on the display.
- The SOUND EDIT mode is turned off.

- The stored sound memories can be saved on a disk for recall at a later time. (Refer to page 124.)

Select a new sound

You can select your original sound just like the other sounds in the **SOUND GROUP**.

1. In the **SOUND GROUP** section, press the **MEMORY** button.



- The list of sounds is shown on the display.

2. Select the desired sound from the list on the display.

Drum Kit Edit

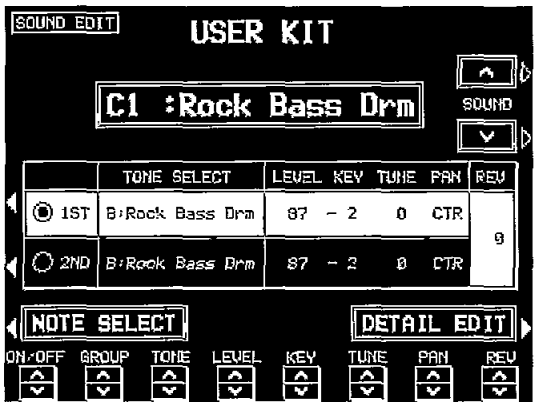
You can create your original drum kit.

DRUM SOUND EDIT

By editing each percussion instrument sound in the drum kit, you can create your original drum kit.

1. From the **DRUM KITS** sound group, select a drum kit to use as the foundation of your new drum kit.

2. Change to the SOUND EDIT mode. (Refer to page 141.)
- The confirmation display appears. Press the YES button.
- When the YES button is pressed, the contents of the "User Kit" are overwritten.
- The display looks similar to the following.



3. While pressing the key for the percussion instrument sound you wish to edit, press the NOTE SELECT button.

4. Use the SOUND ∧ and ∨ buttons to select the percussion instrument sound to assign.

5. Use the buttons below the display to select the tone.
- Percussion sounds are composed of two tones (1st and 2nd).
- The name of the currently selected percussion instrument and the note name assigned to it are shown in the upper part of the display.

6. Edit the setting.

ON/OFF:
Use the ON/OFF ∧ and ∨ buttons to specify whether or not the selected tone is output.

TONE SELECT:
Use the GROUP ∧ and ∨ buttons and the TONE ∧ and ∨ buttons to change the tone.

LEVEL:
Use the LEVEL ∧ and ∨ buttons to adjust the volume (0 to 127).

KEY:
Use the KEY ∧ and ∨ buttons to adjust the pitch (–50 to + 50).

TUNE:
Use the TUNE ∧ and ∨ buttons to make fine adjustments to the pitch (–50 to + 50).

PAN:
Use the PAN ∧ and ∨ buttons to adjust the stereo balance (L64–CTR–R63).

REV:
Use the REV ∧ and ∨ buttons to specify the amount of output to the REVERB (0 to 127).
- This setting is effective for both the 1st and 2nd tones in common.

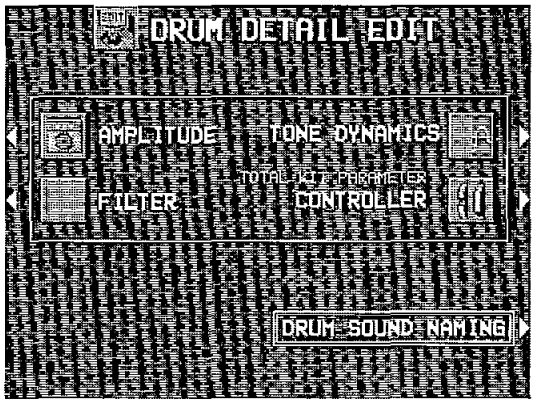
7. Repeat steps 3 to 6 for the other keyboard keys.

- Your original drum kit is stored in the USER KIT of the **DRUM KITS** sounds in the **SOUND GROUP**.

■ DRUM DETAIL EDIT

Follow this procedure when you wish to make more precise adjustments to each tone.

1. Press the DETAIL EDIT button.
- The display looks similar to the following.



2. Select the item to edit.
- The editing procedure is basically the same as the SOUND EDIT procedure for other sounds.

- For drum kits, the number of items that can be edited it limited.
- You can press the DRUM SOUND NAMING button to assign a name to your percussion instrument sound while you are editing it.

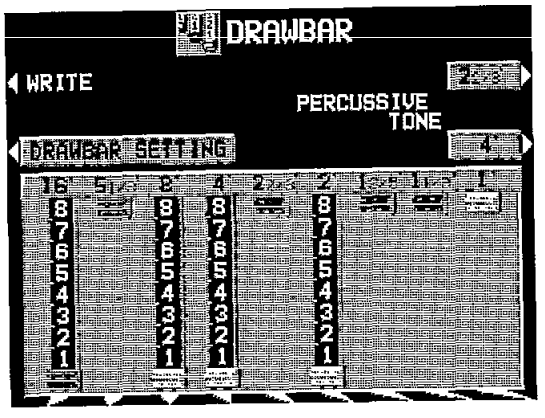
Recording Digital Drawbar sounds (KN1600)

You can save your customized drawbar settings.

DIGITAL DRAWBAR EDIT

1. Follow the procedure to adjust the **DIGITAL DRAWBAR** sound. (Refer to page 36.)

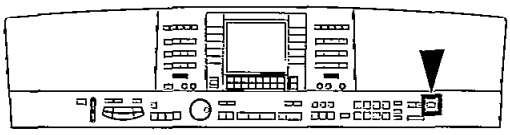
2. Change to the SOUND EDIT mode. (Refer to page 141.)
- The display looks similar to the following.



3. Press the WRITE button.
- The display changes to the MEMORY WRITE display. Follow the procedure to store the new sound. (Refer to page 157.)

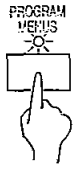
Part IX Control

Outline of Control functions

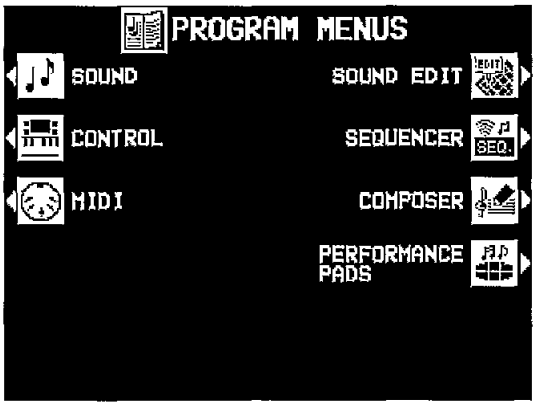


Various settings related to the operation of this instrument are adjusted with the CONTROL functions.

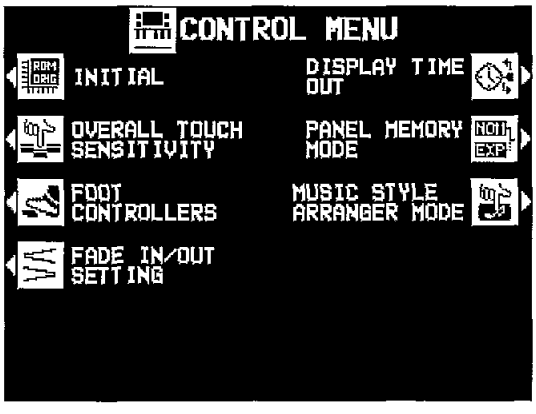
1. Press the **PROGRAM MENUS** button to turn it on.



- The display looks similar to the following.



2. Select CONTROL.
- The display looks similar to the following.



3. Select a function.

INITIAL
Return the settings and memories to the factory-preset status. (Refer to page 179.)

OVERALL TOUCH SENSITIVITY (page 162)
Adjust the amount of keyboard touch response.

FOOT CONTROLLERS (page 162)
Assign functions to the separately sold Foot Switch and Foot Controller, etc.

DISPLAY TIME OUT (page 164)
Adjust settings related to the screen display.

PANEL MEMORY MODE
Define which panel settings are stored when the **PANEL MEMORY** is used. (Refer to page 71.)

MUSIC STYLE ARRANGER MODE
Define which panel settings change by pressing a **FILL IN** button when the **MUSIC STYLE ARRANGER** is used. (Refer to page 68.)

FADE IN/OUT SETTING
Settings related to the **FADE IN/FADE OUT**. (Refer to page 63.)

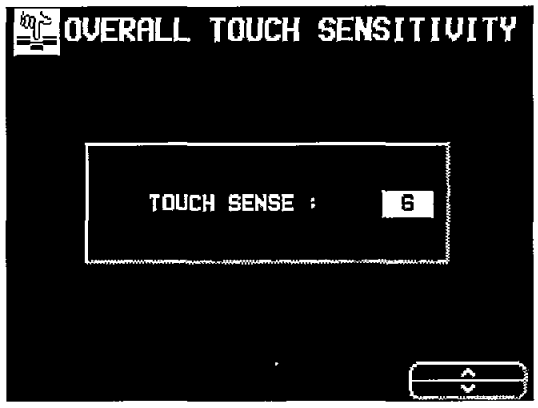
3. Follow the procedure to adjust the settings.
- While you are adjusting the settings, when the **TEMPO/PROGRAM** indicator is lit, it indicates that the **TEMPO/PROGRAM** is available for setting the current function.

4. When you have finished setting the functions, press the **PROGRAM MENUS** button to turn it off.

Overall Touch Sensitivity

This instrument features INITIAL TOUCH (the volume, for example, changes depending on how hard the keyboard is played).

1. On the CONTROL MENU display, select OVERALL TOUCH SENSITIVITY.
- The display looks similar to the following.

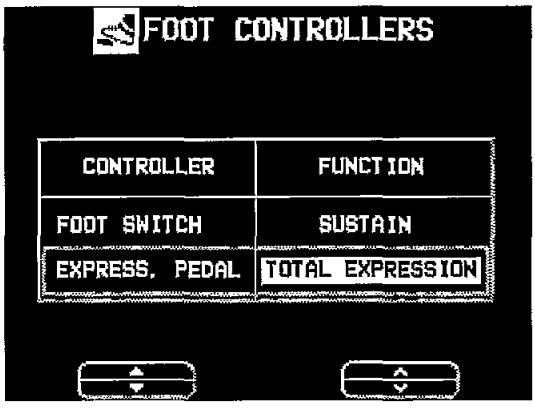


2. Use the ∧ and ∨ buttons to adjust the amount of keyboard touch response (0 to 9).
- When set to 0, initial touch sensitivity is turned off.

Foot Controllers

If an optional Foot Switch and/or Expression Pedal (sold separately) is connected, you can assign it one of several functions, allowing convenient and fast control during your performance.

1. On the CONTROL MENU display, select FOOT CONTROLLERS.
- The display looks similar to the following.



2. Use the ▲ and ▼ buttons to select a switch name, and the ∧ and ∨ buttons to select its function.

■ **FOOT SWITCH**

OFF:
No function is assigned.

P. MEM INCREMENT:
Increment the **PANEL MEMORY** number selection by 1.

P. MEM DECREMENT:
Decrement the **PANEL MEMORY** number selection by 1.

P. MEM BANK INC.:
Change to the next **PANEL MEMORY** *bank in* order.

P. MEM BANK DEC.:
Change to the previous **PANEL MEMORY** bank in order.

PANEL MEMORY 1 to 8:
The specified **PANEL MEMORY** number is turned on.

P. MEM INC.+DEC.:
Press the switch to increment the **PANEL MEMORY** number selection by one; release the switch to return to the previous number.

START/STOP:
START/STOP button on/off

FILL IN 1:
FILL IN 1 button on

FILL IN 2:
FILL IN 2 button on

INTRO & ENDING 1:
INTRO & ENDING 1 button on

INTRO & ENDING 2:
INTRO & ENDING 2 button on

SUSTAIN:
SUSTAIN button on/off

GLIDE:
Glide on/off (The glide effect "bends" the pitch down by about one semitone.)

TECHNI-CHORD:
TECHNI-CHORD button on/off

DIGITAL EFFECT:
DIGITAL EFFECT button on/off

DSP EFFECT 1:
DSP EFFECT 1 on/off

DSP EFFECT 2:
DSP EFFECT 2 on/off

ROTARY SLOW/FAST:
KN1400:
SLOW/FAST switching for the ROTARY type of **DSP EFFECT**.
KN1600:
TREMOLO SLOW/FAST of the **DIGITAL DRAWBAR**

PUNCH RECORD:
Punch in/punch out (Refer to page 83.)

APC HOLD:
Memorize the chord specified for the automatic accompaniment.

FADE IN:
FADE IN button on/off

FADE OUT:
FADE OUT button on/off

PAD 1 to 6:
Specified **PERFORMANCE PADS** on

■ **EXPRESS. PEDAL**

TOTAL EXPRESSION:
The volume for all parts changes when the expression pedal is operated.

PART EXPRESSION:
The volume changes only for parts for which PART EXP PEDAL was turned ON on the PART SETTING display for SOUND. (Refer to page 135.)

- The initialized settings are as follows:

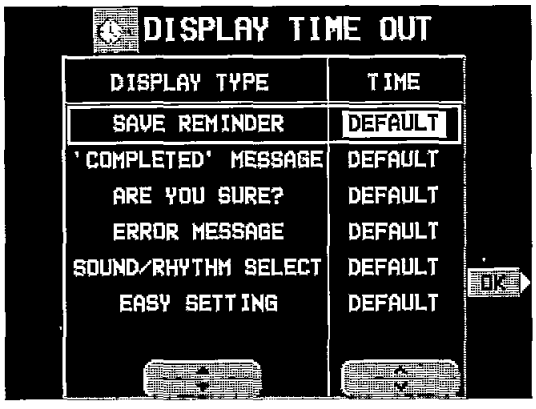
FOOT SWITCH	SUSTAIN
EXPRESS. PEDAL	TOTAL EXPRESSION

- For connection of a Foot Switch, etc., refer to page 181.

Display Time Out

Numerous message displays and setting displays conveniently guide you through the operation steps of this instrument. Once you become familiar with the operation of your instrument, however, you may wish to shorten or even suspend the display time of the message displays.

1. On the CONTROL MENU display, select DISPLAY TIME OUT.
- *The display looks similar to the following.*



2. Use the ▲ and ▼ buttons to select the function.

SAVE REMINDER:
Reminder display (OFF, DEFAULT, HOLD, 1 to 10 sec)

'COMPLETED' MESSAGE:
Operation successfully completed (OFF, DEFAULT, HOLD, 1 to 10 sec)

ARE YOU SURE?:
Display requires user action for confirmation (OFF, DEFAULT, HOLD)

ERROR MESSAGE:
Error notification display (DEFAULT, HOLD, 1 to 10 sec)

SOUND/RHYTHM SELECT:
Sound/rhythm and **PERFORMANCE PADS** BANK selection display (DEFAULT, HOLD, 1 to 10 sec)

EASY SETTING:
Display time when the setting display was accessed pressing and holding a panel button (DEFAULT, HOLD, 1 to 10 sec)

- When set the OFF, the display will not appear.
- When set to DEFAULT, the display time returns to the initialized setting.
- You can specify 1 to 10 seconds for the display time.
- When set to HOLD, the **DISPLAY HOLD** automatically turns on.

3. Use the ∧ and ∨ buttons to change the setting.

4. Press the OK button.

- Some messages may be displayed even if they are set to OFF.

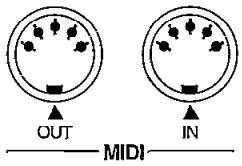
Part X MIDI

What is MIDI?

MIDI (Musical Instrument Digital Interface) is the international standard for digital communication of electronic musical instrument data. This means that any equipment which has a MIDI terminal—such as electronic musical instruments and personal computers—can easily exchange digital data with other MIDI equipment without resorting to complicated conversions or connections.

MIDI terminals

(On the rear panel)



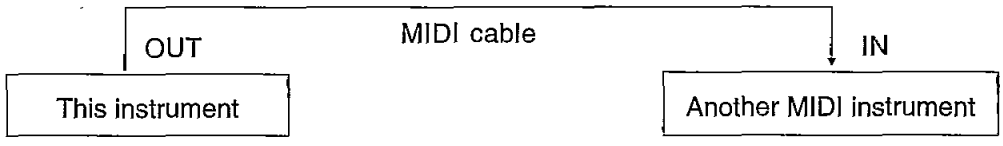
IN:
The terminal by which this instrument receives data from other equipment.

OUT:
The terminal that transmits data from this instrument to other equipment.

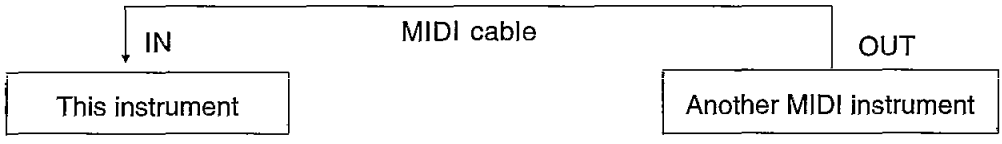
- For these connections, use a commercially available MIDI cable.
- Exchange of normal data through these terminals is enabled only when the **COMPUTER** terminal switch is set to **MIDI**. (Refer to page 181.)

Connection examples

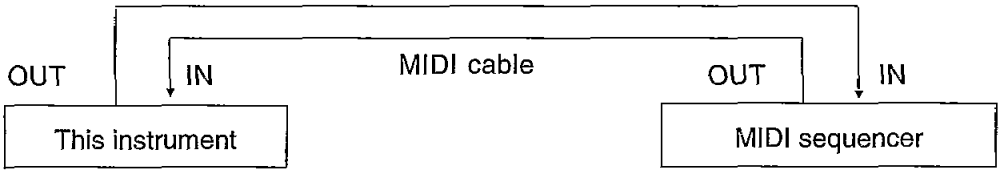
■ **To generate sound from a connected instrument by playing this instrument**



■ **To generate sound from this instrument by operating a connected instrument**



■ **To connect with a MIDI sequencer**



MIDI channels

Many different kinds of performance data are sent using just one MIDI cable. This is possible because MIDI signals are sent and received through 16 different "basic channels" (numbered 1 to 16). In order for the exchange of data to take place, the channels on the transmission side must match the channels on the receiving side. This characteristic also makes it possible to link multiple sound generators and to control each by matching specific channels.

The following kinds of data can be transmitted/received.

■ **NOTE data**
This is the most basic kind of MIDI data which is exchanged, and is used to specify which keys are played and how hard they are played.

NOTE NUMBER: Number specifying which key is played.
NOTE ON: Specifies that a key is played.
NOTE OFF: Specifies that a key is released.
VELOCITY: Specifies how hard a key is struck.

- MIDI notes are assigned numbers from 0 to 127, with middle C (C3) as 60. Note pitches are in semitone increments, with the higher numbers assigned to the higher pitches.

■ **PROGRAM CHANGE**
This is sound change data. When a different sound is selected on the transmitting instrument, the sound on the receiving instrument also changes.

■ **CONTROL CHANGE**
These are volume, sustain, effect, etc. data used to enhance performance expression. Each function is distinguished by its control number, and the function which can be changed by the control differs depending on the instrument.

■ **EXCLUSIVE data**
This is sound data, etc. particular to a specific instrument model. This data can also be transmitted and received by the DUMP function.
- For details, refer to the separate "REFERENCE GUIDE" provided.

GENERAL MIDI

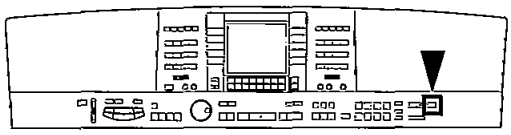
GENERAL MIDI (GM) is the standard which enables MIDI data exchange between different models or equipment of different manufacture. Program change numbers and their corresponding sounds, percussion instrument sounds, note numbers, etc. are data-compatible between equipment using this standard. Song data created on the equipment of one manufacturer can be played back on the equipment of a different manufacturer, as long as both conform to the GENERAL MIDI standard. This instrument conforms to this standard and can be used as a GENERAL MIDI sound generator.

Equipment which conforms to GENERAL MIDI standards is indicated by the following logo.

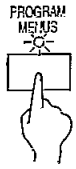
GENERAL MIDI

- GENERAL MIDI can be set to ON or OFF. (Refer to page 175.)

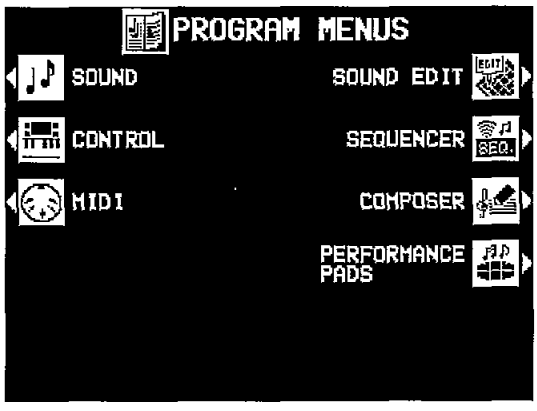
Outline of MIDI functions



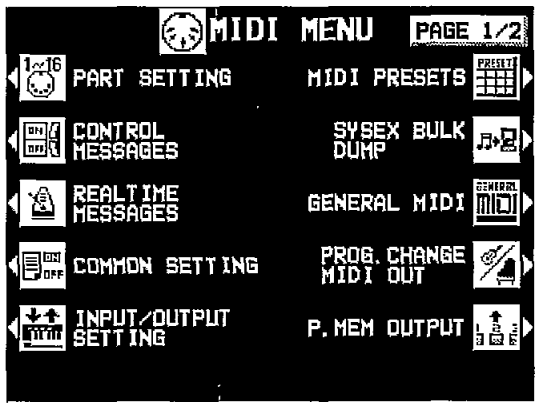
1. Press the **PROGRAM MENUS** button to turn it on.

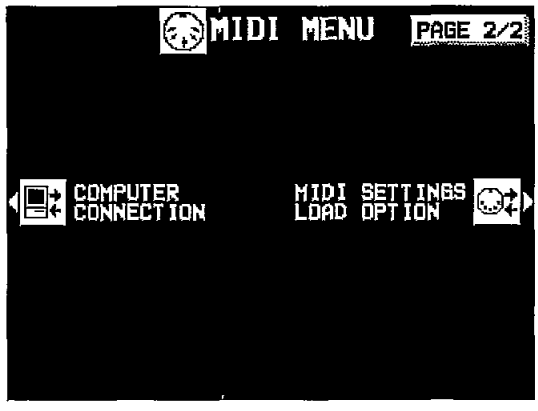


- The display looks similar to the following.



2. Select MIDI.
- The display looks similar to the following.
- The menu display consists of two screen pages. Use the **PAGE** button to switch between pages.





3. Select a function.

4. Follow the procedure to adjust the settings.
- While you are adjusting the settings, when the **TEMPO/PROGRAM** indicator is lit, it indicates that the **TEMPO/PROGRAM** is available for setting the current function.

5. When you have finished setting the functions, press the **PROGRAM MENUS** button to turn it off.

Summary of the MIDI menu items

PART SETTING (page 168)
Set the MIDI CHANNEL, OCTAVE and LOCAL CONTROL settings for each part.

CONTROL MESSAGES (page 169)
Enable or disable the exchange of various CONTROL data.

REALTIME MESSAGES (page 170)
Enable or disable the exchange of REAL-TIME COMMANDS, and select the CLOCK mode.

COMMON SETTING (page 171)
Set the functions which are common to all parts.

INPUT/OUTPUT SETTING (page 172)
Settings which determine how various performance data is treated during data transmission and reception.

MIDI PRESETS (page 173)
Establish the optimum settings depending on how this instrument is connected to other equipment.
- You can save the settings you specify yourself.

SYSEX BULK DUMP (page 174)
Data exchange of SYSTEM EXCLUSIVE data.

GENERAL MIDI (page 175)
Settings when this instrument is used as a GENERAL MIDI instrument.

PROG. CHANGE MIDI OUT (page 176)
Settings for transmitting the desired PROGRAM CHANGE data on the specified MIDI channel.

P. MEM OUTPUT (page 176)
Settings that affect the transmission data when the **PANEL MEMORY** buttons are operated.

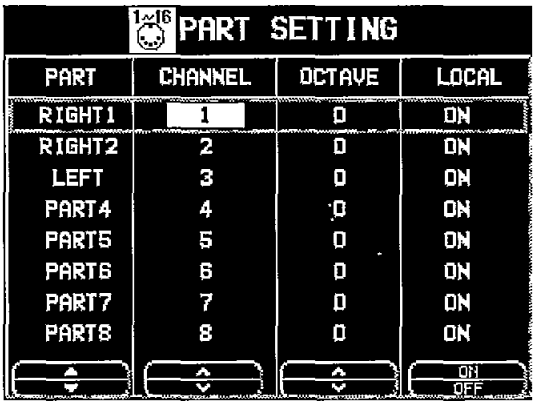
COMPUTER CONNECTION (page 177)
Mode settings related to the flow of MIDI signals when this instrument is connected to a personal computer.

MIDI SETTINGS LOAD OPTION (page 178)
Specify how MIDI data is handled when data is loaded from a disk.

Part Setting

Follow this procedure to set the functions which can be set for each part: MIDI CHANNELs, the OCTAVE data to NOTE data during transmission, and LOCAL CONTROL (whether or not the sound generator of this instrument is active during transmission).

1. On the MIDI MENU display, select PART SETTING.
- The display looks similar to the following.



2. Use the PART ∧ and ∨ buttons to select a part.
- The list of parts covers three pages. Use the **OTHER PARTS/TR** button to view different parts.

3. Use the CHANNEL ∧ and ∨ buttons to select a MIDI CHANNEL for the part (OFF, 1 to 16).
- A part which has been set to OFF cannot be used to transmit or receive MIDI data.
- The initialized settings are as follows:

RIGHT 1	1
RIGHT 2	2
LEFT	3
PART 4	4
PART 5	5
PART 6	6
PART 7	7
PART 8	8
PART 9	9
PART 10	10
PART 11	11

PART 12	12
PART 13	13
PART 14	14
PART 15	15
PART 16	16
CONTROL	OFF
ACCOMP 1	OFF
ACCOMP 2	OFF
ACCOMP 3	OFF
BASS	OFF
DRUMS	OFF
CHORD	OFF

4. Use the OCTAVE ∧ and ∨ buttons to set the octave shift value (–3 to 3).
- Octave shift is set for transmitted data only; however the transmitted and received octave shifts are linked. For example, if the transmitted octave shift is set to 1, the received octave shift is automatically set to –1.

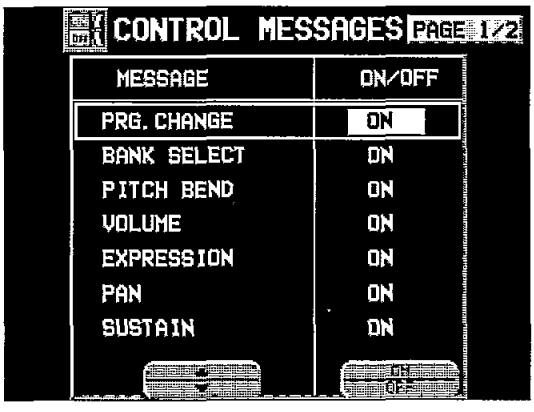
5. Use the LOCAL ON and OFF buttons to enable or disable this instrument's sound generator.
- When set to ON, the performance from this instrument is transmitted as MIDI data and also sounds from this instrument. When set to OFF, the performance from this instrument is transmitted as MIDI data but does not sound from this instrument.

6. Repeat steps 2 to 5 for each part as desired.

Control Messages

Enable or disable the exchange of various control data.

1. On the MIDI MENU display, select CONTROL MESSAGES.
- The display looks similar to the following.
- The CONTROL MESSAGES display consists of 2 pages. Use the **PAGE** buttons to switch between pages.



2. Use the MESSAGE ▲ and ▼ buttons to select the control message.

3. Use the ON and OFF buttons to specify on or off for the control message.

ON:
Data for the control operation is exchanged.
OFF:
Data for the control operation is not exchanged.

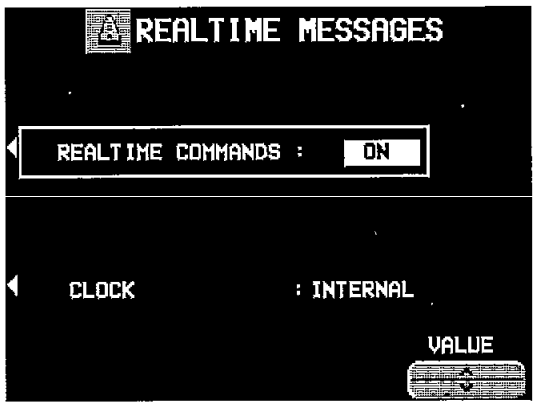
- The BANK SELECT setting is effective only when PRG. CHANGE is set to ON.
- The EFFECT & REVERB setting controls the **DIGITAL EFFECT**, **DSP EFFECT**, **ACOUSTIC ILLUSION** and **DIGITAL REVERB** on/off.
- The TUNING setting is the on/off setting for the TUNING and KEY SHIFT settings.

4. Repeat steps 1 and 2 for each control as desired.

Realtime Messages

Enable or disable the exchange of **START/STOP** data (REALTIME COMMANDS), and select the CLOCK mode.

1. On the MIDI MENU display, select REALTIME MESSAGES.
- The display looks similar to the following.



2. Use the buttons on the left side of the display to select a function.

3. Use the VALUE ∧ and ∨ buttons to change the setting.

REALTIME COMMANDS
ON:
Rhythm and **SEQUENCER** start/ stop, continue, and song position pointer data can be transmitted/received.
OFF:
This data cannot be transmitted/received.

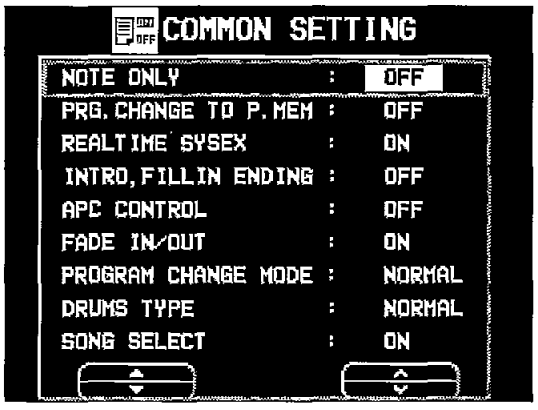
CLOCK
INTERNAL:
This instrument's internal clock is used to control the performance. The clock of the connected equipment is disabled.
MIDI:
The clock of the connected equipment is used to control the performance. This instrument's clock is disabled. (The tempo is displayed as "♩ = – – –.")
- The CLOCK is set to INTERNAL when the power to this instrument is turned on.

4. Repeat steps 2 and 3 for the other function if desired.

Common Setting

Set the functions which are common to all parts.

1. On the MIDI MENU display, select COMMON SETTING.
- The display looks similar to the following.


COMMON SETTING
NOTE ONLY : OFF
PRG. CHANGE TO P. MEM : OFF
REALTIME SYSEX : ON
INTRO, FILLIN ENDING : OFF
APC CONTROL : OFF
FADE IN/OUT : ON
PROGRAM CHANGE MODE : NORMAL
DRUMS TYPE : NORMAL
SONG SELECT : ON

2. Use ▲ and ▼ buttons to select the item.

NOTE ONLY:
Of the performance data, specify whether or not only note data is exchanged.

PROG. CHANGE TO P. MEM:
Enable or disable the exchange of program change numbers for the **RIGHT 1** part by operation of the **PANEL MEMORY** buttons.
- For this setting, the **PANEL MEMORY 1** to **8** program change numbers correspond to the bank numbers as follows:
BANK 1 = 0 to 7
BANK 2 = 8 to 15 ...

REALTIME SYSEX:
Specify whether or not MIDI data is exchanged as system exclusive data during the performance.
- For details about REALTIME SYSEX, refer to the pages on MIDI in the separate "REFERENCE GUIDE" provided.

INTRO, FILL-IN, ENDING:
Enable or disable the exchange of intro, fill-in and ending data.
- Data is exchanged on the channel for the **DRUMS** part.

APC CONTROL:
Enable the exchange of data for the on/off status of the **AUTO PLAY CHORD**'s ONE FINGER, FINGERED and PIANIST modes.
- Data is exchanged on the channel for the **ACCOMP 1** part.

FADE IN/OUT:
Specify whether or not FADE IN/OUT data is exchanged.
- Data is exchanged on the channel for the CONTROL part.

PROGRAM CHANGE MODE
NORMAL:
The program change numbers are as indicated in the "REFERENCE GUIDE."
TECH:
Program change numbers are standardized among all Technics models which are set to this mode. The program change number assigned to a given sound on one model is assigned to the same sound on all models which are set to the same mode.
GM:
Program change numbers follow the GM standard.
- The program change numbers for each mode can be found in the separate "REFERENCE GUIDE" provided.

DRUMS TYPE
NORMAL:
Keyboard percussion instrument sounds correspond to this instrument's key note numbers
TECH:
Keyboard percussion instrument sounds correspond to the same key note numbers for connect Technics models set to this type.
GM:
Keyboard percussion instrument sounds follow the GM standard.

SONG SELECT
ON:
Song number data can be exchanged.
OFF:
Song number data cannot be exchanged.

3. Use ∧ and ∨ buttons to change the setting.

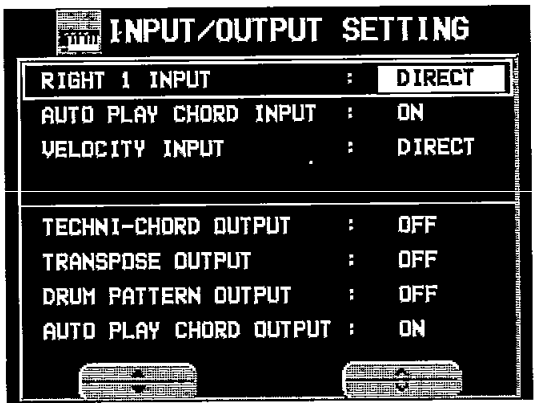
ON:
Data exchange is enabled.
OFF:
Data exchange is disabled.

4. Repeat steps 2 and 3 for the other settings as desired.

Input/output Setting

Make the settings which determine how various performance data is treated during data transmission and reception.

1. On the MIDI MENU display, select INPUT/OUTPUT SETTING.
- The display looks similar to the following.


INPUT/OUTPUT SETTING
RIGHT 1 INPUT : DIRECT
AUTO PLAY CHORD INPUT : ON
VELOCITY INPUT : DIRECT
TECHNI-CHORD OUTPUT : OFF
TRANSPOSE OUTPUT : OFF
DRUM PATTERN OUTPUT : OFF
AUTO PLAY CHORD OUTPUT : ON

2. Use the ▲ and ▼ buttons to select the item.

RIGHT 1 INPUT
CONDUCTOR:
When data for the **RIGHT 1** part is received, the **CONDUCTOR** determines which part it is used for.
DIRECT:
When data for the **RIGHT 1** part is received, it is treated as **RIGHT 1** data, and performance data for all parts is received on their respective basic channels.

AUTO PLAY CHORD INPUT
ON:
Input data for the **ACCOMP 1, 2, 3, BASS, DRUMS** and **CHORD** parts is received.
OFF:
Data for the above parts is not received.
- MIDI channels should be assigned to the above parts before exchanging data.

VELOCITY INPUT
DIRECT:
The VELOCITY value of received NOTE ON data is treated as is.
OFFSET:
The VELOCITY value of received NOTE ON data is offset (–50 to 50).
- Select VELOCITY OFFSET VALUE. Use the ∧ and ∨ buttons to change the value.
- All the values are offset from the current value by the fixed amount.
- The upper (127) and lower (1) limits cannot be exceeded.

FIX:
The VELOCITY value of all received NOTE ON data is set to a fixed value. (1 to 127)
- Select VELOCITY FIXED VALUE. Use the ∧ and ∨ buttons to change the value.

TECHNI-CHORD OUTPUT
ON:
Keyboard notes generated by the **TECHNI-CHORD** function are also transmitted.
OFF:
Only key note data of the pressed keys is transmitted.

TRANSPOSE OUTPUT
ON:
The note data of the transposed notes is transmitted.
OFF:
The note data of the played keys is transmitted.

DRUM PATTERN OUTPUT
ON:
Data from the **DRUMS** part is transmitted.
OFF:
Data from the **DRUMS** part is not transmitted.

AUTO PLAY CHORD OUTPUT
ON:
The data for the **ACCOMP 1, 2, 3, BASS** and **CHORD** parts is transmitted.
OFF:
The data for the above parts is not transmitted.
- MIDI channels should be assigned to the above parts before exchanging data.

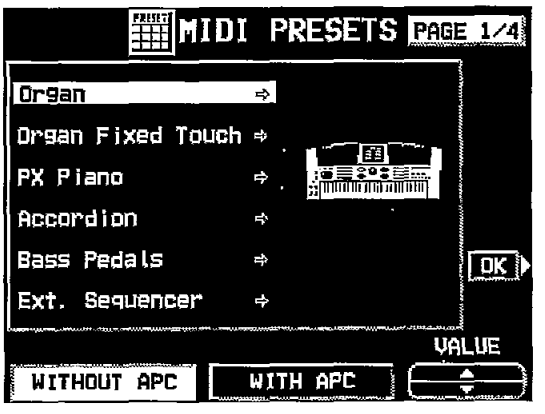
3. Use the ∧ and ∨ buttons to select the setting.

4. Repeat steps 2 and 3 for each item as desired.

MIDI Presets

Establish the optimum settings depending on how this Keyboard is connected to other equipment, and on whether this Keyboard is used as the master or the slave.

1. On the MIDI MENU display, select MIDI PRESETS.
- The display looks similar to the following.



2. Use the VALUE ▲ and ▼ buttons to select the connection setup.
- The PAGE 1/4 display shows connection setups with this instrument as the SLAVE. And the PAGE 2/4 display shows connection setups with this instrument as the MASTER.
- The MASTER is the instrument used to transmit data, and the SLAVE is the instrument used to receive the data.
- Use the buttons below the display to select WITHOUT APC (the **AUTO PLAY CHORD** is not used) or WITH APC (the performance includes **AUTO PLAY CHORD**).

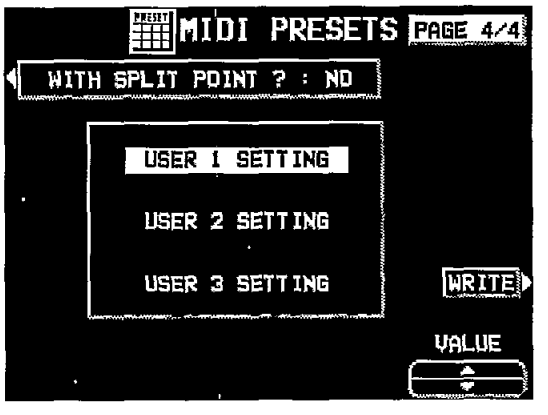
3. Press the OK button.
- When the settings have been successfully stored, "COMPLETED!" appears on the display.
- Detailed information about the MIDI PRESETS can be found in the separate "REFERENCE GUIDE" provided.

■ Storing user settings

After you change the MIDI settings, you can store your customized settings in USER preset memories (3 USER memories).

1. Adjust the various MIDI settings.

2. Go to PAGE 4/4 of the MIDI PRESETS display.
- The display looks similar to the following.



3. Use the ▲ and ▼ buttons to select the memory in which to store the settings (USER SETTING 1, 2, 3).

4. Use the WITH SPLIT POINT? button to specify whether or not to also store the keyboard split point (YES/NO).

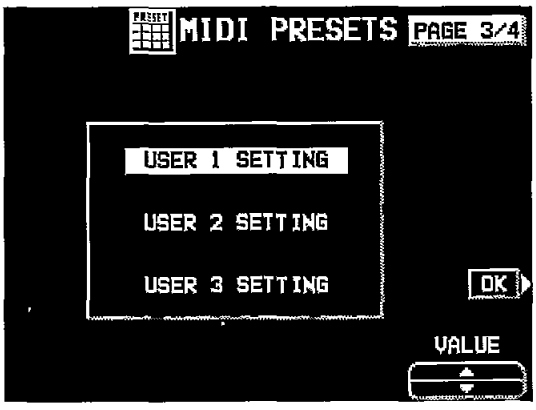
Notice

When an instrument such as an organ or accordion with separate or divided keyboards dedicated to melody and chords is used as the master instrument, if this instrument's split point is set to a note below the lowest note of the melody keyboard of the master instrument, it is possible to produce melody notes on multiple parts by this instrument's **CONDUCTOR** settings.
- Assign the RIGHT 1 channel as the CHANNEL for the melody keyboard. Assign the CHORD channel (or if you also wish the played note to be produced, CHORD + LEFT) as the CHANNEL for the chord keyboard.
- You will also have to specify CONDUCTOR as the RIGHT 1 INPUT for the INPUT/OUTPUT SETTING. (Refer to page 172.)

5. Press the WRITE button.

■ **Recalling the USER settings**

1. Go to PAGE 3/4 of the MIDI PRESETS display.



2. Use the ▲ and ▼ buttons to select a number.

3. Press the OK button.

Sysex Bulk Dump

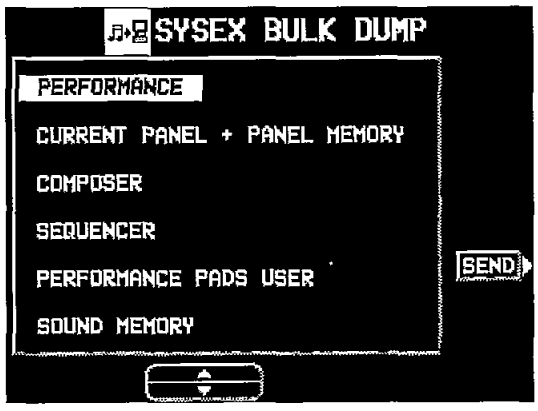
This instrument's internal data such as panel settings, performance data, etc. can be transmitted to and received from another KN1400/KN1600 or other MIDI equipment with BULK DUMP capability as SYSTEM EXCLUSIVE data.

- Sound is not generated from this instrument during this procedure.
- The operations on this display are executed, even if REALTIME SYSEX is set to OFF on the COMMON SETTING display.

■ **Transmitting**

1. Follow the procedure necessary to prepare the receiving instrument for data reception.

2. On the MIDI MENU display, select SYSEX BULK DUMP.
- *The display looks similar to the following.*



3. Use the ▲ and ▼ buttons to select the type of data to transmit.
- The **SEQUENCER** data for all 10 songs are transmitted at once. You can decrease the time it takes to transmit by deleting beforehand any songs you do not wish to transmit.

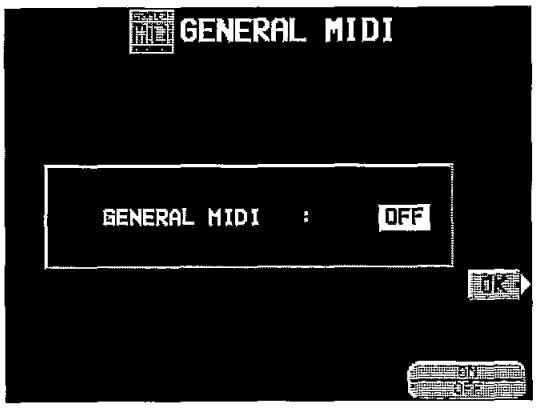
4. Press the SEND button.
- During transmission, the transmitting status is shown on the display.

- You can also receive data with this instrument. After accessing this display on this keyboard, follow the transmission procedure on the transmission side. During reception, the receiving status is shown on the display.
- If data transmission/reception is unsuccessful, an error message appears on the display. In this case, repeat the procedure from the beginning.

General MIDI

GENERAL MIDI (GM) is the standard which enables MIDI data exchange between different models or equipment of different manufacture. Program change numbers and their corresponding sounds, percussion instrument sounds, note numbers, etc. are data compatible between equipment using this standard.

1. On the MIDI MENU display, select GENERAL MIDI.
- The display looks similar to the following.



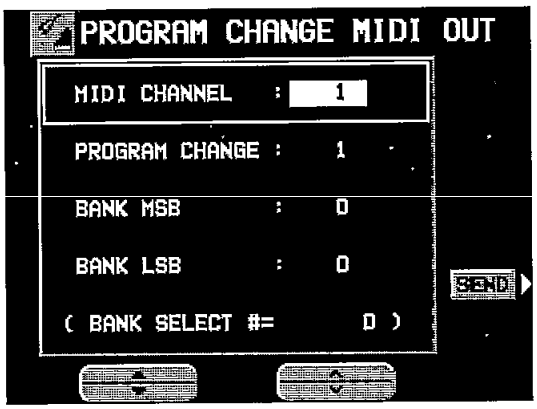
2. Use the ON and OFF buttons to specify whether or not this Keyboard should be compatible with GENERAL MIDI standard instruments.
- This setting is automatically set to OFF when the power is turned on.
- If ON is selected, the status of this Keyboard changes to the GENERAL MIDI status, and the sounds and operations which can be selected are limited. In addition, the arrangement of percussion sounds on the keyboard changes. (Refer to the separate "REFERENCE GUIDE" provided.)
- This setting is automatically set to ON if disk data other than Technics data is loaded.

3. Press the OK button.
- The confirmation display appears. Press the YES button to execute the function, or press the NO button to cancel the function.
- If ON was selected, GENERAL MIDI is shown on the normal performance display.
- When this function is executed, the selected SONG data in the **SEQUENCER** is cleared and the panel settings are reset.
- If ON is selected, this setting is automatically set to OFF when the power is turned off, and the **SEQUENCER** memory and panel settings are cleared.

Program Change MIDI Out

Use this function to immediately transmit specific PROGRAM CHANGE and BANK SELECT data from this display on a specified MIDI channel.

1. On the MIDI MENU display, select PROG. CHANGE MIDI OUT.
- The display looks similar to the following.



2. Use the ▲ and ▼ buttons to select a function.

MIDI CHANNEL:
The MIDI channel to transmit to (1 to 16).

PROGRAM CHANGE:
Specify the PROGRAM CHANGE number to transmit (1 to 128).

BANK MSB:
Specify the BANK SELECT MSB to transmit (0 to 127).

BANK LSB:
Specify the BANK SELECT LSB to transmit (OFF, 0 to 127).
- When set to OFF, neither the LSB nor the MSB are transmitted.

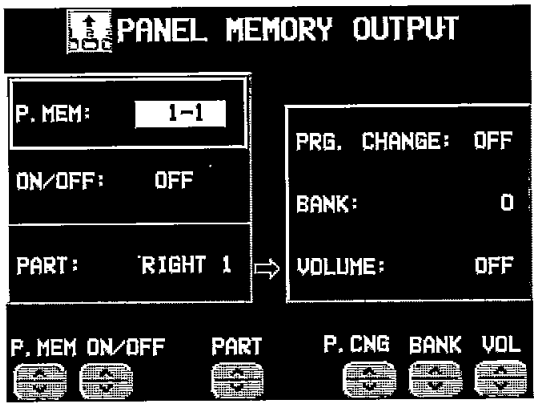
3. Use the ∧ and ∨ buttons to change the setting.

4. Press the SEND button.
- The specified data is transmitted.
- The data is unconditionally transmitted regardless of the other settings.

Panel Memory Output

These are settings affect the transmission data when the **PANEL MEMORY** buttons are operated.

1. On the MIDI MENU display, select P.MEM OUTPUT.
- The display looks similar to the following.



2. Use the P.MEM ∧ and ∨ buttons to select a **PANEL MEMORY** number.

3. Use the ON/OFF ∧ and ∨ buttons to specify whether the data in the selected **PANEL MEMORY** number is transmitted or not.

4. Use the PART ∧ and ∨ buttons to select a part (RIGHT 1, RIGHT 2 or LEFT).

5. Use the P.CNG ∧ and ∨ buttons to specify a program change number (0 to 127, or OFF).

6. Use the BANK ∧ and ∨ buttons to specify a bank select number (0 to 255).

7. Use the VOL ∧ and ∨ buttons to specify the volume (0 to 127, or OFF).

8. Repeat steps 4 to 7 for each part, as necessary.

9. Repeat steps 2 to 8 for each **PANEL MEMORY** number, as necessary.

Computer Connection

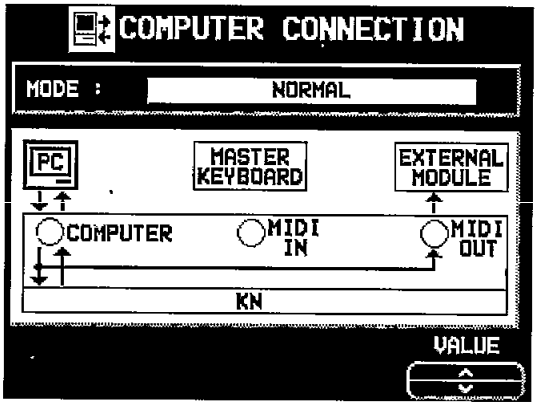
These settings are used to select the mode related to MIDI signal flow when a personal computer is connected to the **COMPUTER** terminal of this instrument.

1. Turn off the power to this instrument.

2. Connect a personal computer to the **COMPUTER** terminal on the rear of this instrument. Set the switch to the correct position. (Refer to page 181.)

3. Turn on the power to this instrument.

4. On the MIDI MENU display, select COMPUTER CONNECTION.
- The display looks similar to the following.



5. Use the VALUE ∧ and ∨ buttons to select a mode.

NORMAL:
The normal mode for data exchange.

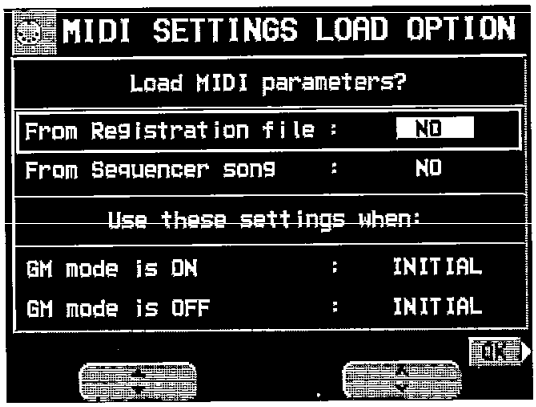
KN as master:
The mode when this instrument is used as the master keyboard.

KN as slave:
The mode when this instrument is used as a slave instrument.

MIDI Settings Load Option

Specify how MIDI data is handled when data is loaded from a disk.

1. On the MIDI MENU display, select MIDI SETTINGS LOAD OPTION.
- The display looks similar to the following.


MIDI SETTINGS LOAD OPTION
Load MIDI parameters?
From Registration file : NO
From Sequencer song : NO
Use these settings when:
GM mode is ON : INITIAL
GM mode is OFF : INITIAL
OK

2. Use the ▲ and ▼ buttons to select an item.

■ **Load MIDI Parameters?**

From Registration file:

Specify whether MIDI data is also loaded when panel data is loaded (NO/YES).

From Sequencer Song:

Specify whether MIDI data is loaded or changed when **SEQUENCER** data is loaded or when the SONG is changed by the **SEQUENCER** SONG SELECT, SONG COPY or TRACK ASSIGN (NO/YES).

- The MIDI settings are always stored at the start of each recorded **SEQUENCER** SONG and when **PANEL WRITE** is executed. In the initialized state, the MIDI settings are not loaded even when the SONG is changed. However, changing this setting to YES will cause the stored MIDI settings to also load in these cases.

■ **Use these settings when:**

GM mode is ON:

Specify how the MIDI settings of this instrument are affected when GENERAL MIDI is on.

- Select from INITIAL (initialized settings), USER (MIDI PRESETS) 1, 2 and 3.

GM mode is OFF:

Specify how the MIDI settings of this instrument are affected when GENERAL MIDI is off.

- Select from INITIAL (initialized settings), USER (MIDI PRESETS) 1, 2 and 3.

3. Use the ∧ and ∨ buttons to change the setting.

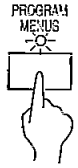
4. Press the OK button.

Initialize

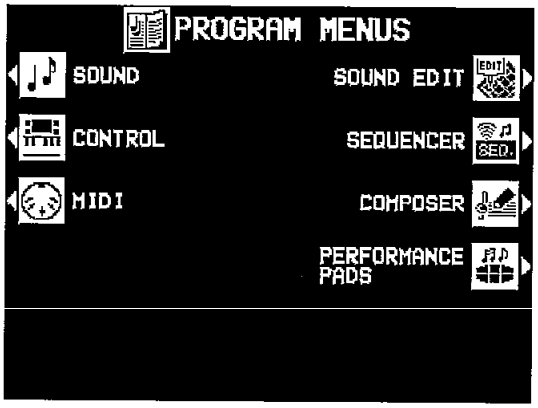
This Keyboard has many settable functions and storable memories. However, you can return the settings and memory to the factory-preset status.

INITIAL

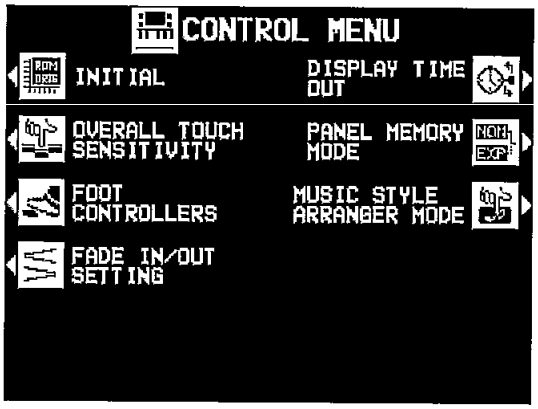
1. Press the **PROGRAM MENUS** button to turn it on.



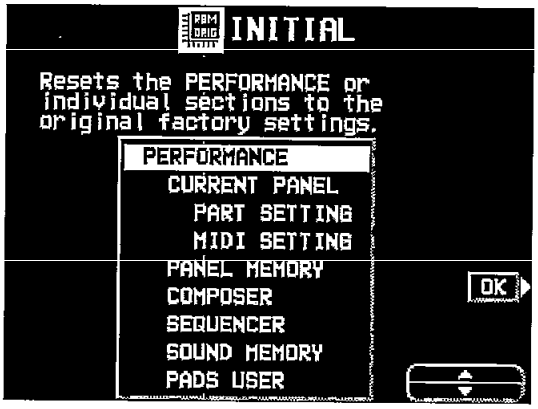
- The display changes to the following.



2. Select CONTROL.
- The display looks similar to the following.

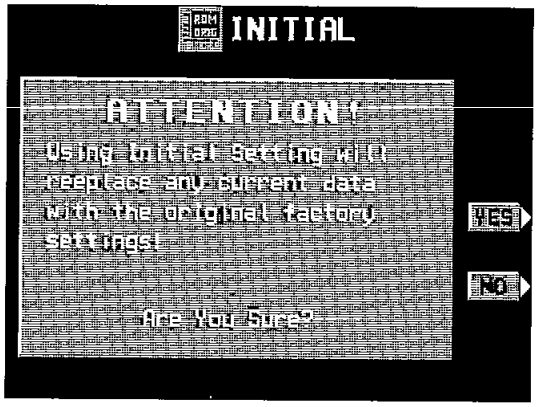


3. Select INITIAL.
- This display changes to the following.



4. Use the ▲ and ▼ buttons to select the desired type of initialization.
- PERFORMANCE includes all the items which are listed below it.

5. Press the OK button.
- The display changes to the confirmation display. Press the YES button if you wish to execute the initialization. Press the NO button if you wish to cancel the procedure.



- Initialization begins. When initialization is completed, "COMPLETED!" is shown on the display and the Keyboard returns to the normal performance mode.
- The USER MIDI SETTINGS, HELP (language selection) and LCD CONTRAST are not initialized by this procedure.

You can also reset all the PERFORMANCE items with the following procedure:
Turn off the power to this instrument once. Then, while pressing the three lower left buttons in the **RHYTHM GROUP** section (**MARCH & WALTZ**, **LATIN** and **WORLD**) at the same time, turn the power on again.

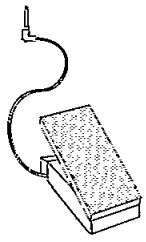
About the backup memory and performance data

When the power to this instrument is turned off, the various settings and memory contents of this instrument are maintained in the backup memory as follows:

BACKUP	PERFORM-ANCE	CURRENT PANEL settings	about 80 minutes
		PANEL MEMORY	
		SEQUENCER	
		COMPOSER (MEMORY contents)	
		SOUND MEMORY	
		PADS (USER memories of the **PERFORMANCE PADS**)	
		USER MIDI SETTINGS (USER memories for the MIDI PRESETS)	indefinitely

- When GENERAL MIDI is ON (the logo is shown on the normal display), the CURRENT PANEL and SEQUENCER data are lost when the power is turned off.
- If you wish to retain the settings and stored memory contents for recall at a later time, store the desired data on a floppy disk. (Refer to page 124.)
- Except for the LCD CONTRAST, HELP (language selection), SOLO PIANO TYPE, MIDI USER PRESET, MIDI SETTING LOAD OPTION, DISPLAY TIMEOUT, and PREFERENCE (DISK) settings, the backup memory does not function for the stored contents until the power has been on for about 10 minutes.
- MIDI SYSEX deals only with the PERFORMANCE data.
- Data from previous Technics models are limited to PERFORMANCE data.

Separately sold options

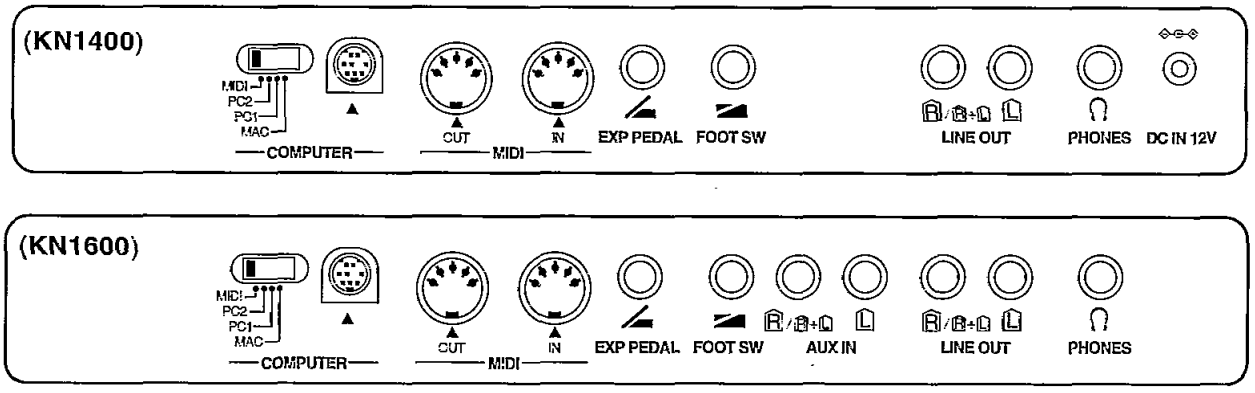


SZ-E2
Expression Pedal

SZ-P1
Foot Switch

Connections

(on the rear panel)



EXP PEDAL

The optional SZ-E2 Expression Pedal (sold separately) can be connected to this terminal to control the volume.

FOOT SW

An optional SZ-P1 Foot Switch (sold separately) can be connected to each terminal to control various functions. (Refer to page 162.)

AUX IN (input level 0.5 Vrms, 6 kΩ) **(KN1600)**
Other instruments such as a sound generator can be connected to this terminal, and the sound will be output from the Keyboard's speakers. To receive monaural sound, connect the other instrument to the **R/R+L** terminal. (Do not connect the **L** terminal.)

LINE OUT (output level 1.5 Vrms, 600 Ω)
By connecting an external high-power amplifier, the sound can be reproduced at a high volume. To output monaural sound, connect the external equipment to the **R/R+L** terminal. (Do not connect the **L** terminal.)

MIDI

These terminals are for connection to another MIDI instrument. (Refer to page 165.)

PHONES

Headphones can be connected to this instrument.

- When headphones are plugged into this jack, the speakers of this instrument are disabled.

COMPUTER

By connecting this terminal to the serial port of a computer, performance data can be exchanged. Use the switch to select the type of computer.

- Be sure that the power to this instrument is turned off when connecting to a computer or when changing the switch setting.

> **Caution:**
> Failure to turn off the power before changing the switch setting may result in malfunction.

- When no computer is connected, or when a MIDI interface is used, the switch should be set to **MIDI**.

Connection to a Macintosh series computer

Use an ACCESSORY CABLE (SZ-JJAP1: sold separately) to connect the **COMPUTER** terminal of this instrument to the modem port or printer port of a Macintosh Series computer. Set the switch to **MAC**.

- Set the MIDI interface clock of the Macintosh software to 1 MHz.
- Do not remove the core at either end of the cable.

Connection to a PC

Use an ACCESSORY CABLE (SZ-JJAT1: sold separately) to connect the **COMPUTER** terminal of this instrument to the RS232C terminal of a PC. Set the switch to **PC2**.

- The MIDI driver included with the cable should be installed in the computer. (Refer to the manual accompanying the cable.)
- Do not remove the core at either end of the cable.

* All product and company names are trademarks or registered trademarks of thir respective owners.

Symptoms which appear to be signs of trouble

The following changes in performance may occur in the Technics Keyboard but do not indicate trouble.

	Phenomenon	Remedy
Sounds and effects	The buttons, keys, etc. malfunction.	• Turn off the **POWER** button once, then turn it on again. If this procedure is not successful, turn off the **POWER** button once. Then, while pressing the three lower left buttons in the **RHYTHM GROUP** section (**MARCH & WALTZ**, **LATIN** and **WORLD**) at the same time, turn the **POWER** button on again. (Note that, in this case, all programmable settings, functions and memories return to their factory-preset status.)
	No sound is produced when the keys are pressed.	• The **MAIN VOLUME** is at the minimum setting. Adjust the volume with the **MAIN VOLUME** control. • The volumes for the selected parts are set to the minimum levels. Use the balance buttons to set the volumes of the relevant parts to appropriate levels. (Refer to page 30.) • The part is muted. (Refer to page 30.) • The LOCAL CONTROL for a part performed on the keyboard is set to OFF. Set the LOCAL CONTROL to ON. (Refer to page 168.)
	Only percussive instrument sounds are produced when the keyboard is played.	• In the **SOUND GROUP** section, the **DRUM KITS** button is on.
	The volume is very low when the keyboard is played.	• The volume setting in the **SEQUENCER** contents is very low. Follow the INITIAL procedure to reset the settings. (Refer to page 179.)
	Some sounds cannot be selected.	• When the GENERAL MIDI status is set to ON, The sounds which can be selected and operation which can be executed are limited. Turn the GENERAL MIDI status OFF to return the instrument to its normal operation. (Refer to page 175.)
	The sound you hear is different from the sound you selected.	• This sometimes occurs when you play back **SEQUENCER** or **COMPOSER** data which was created on a different model, or when MIDI data is received from a connected instrument. Select the desired sounds again.
Rhythm	The rhythm does not start.	• The **DRUMS** volume is set to the minimum level. Use the balance buttons to set the **DRUMS** volume to an appropriate level. • A **SEQUENCER PLAY** button is on. When you are not playing back the **SEQUENCER** performance, turn off the **SEQUENCER PLAY** button. • CLOCK is set to MIDI. Set CLOCK to INTERNAL. (Refer to page 170.) • The rhythm does not work when the GENERAL MIDI mode is set to ON. Turn the GENERAL MIDI status OFF to return the instrument to its normal operation. (Refer to page 175.)
AUTO PLAY CHORD	No sound is produced for the automatic accompaniment, or only the sounds of some parts are produced.	• An **ACCOMP** part does not sound if its corresponding volume is set to the minimum level. Use the respective balance buttons to set the **ACCOMP 1**, **2** and **3** volumes to appropriate levels.

	Phenomenon	Remedy
SEQUENCER	Storage is not possible.	• The remaining memory capacity of the **SEQUENCER** is 0. Follow the SONG CLEAR or TRACK CLEAR procedure to erase the memory. (Refer to pages 93, 99.)
	The playback measure indication is different from when the performance was recorded.	• The number of measures corresponds to the time signature of the rhythm selected at the start of recording. To change the rhythm in the middle of the song, record the rhythm change in the RHYTHM part. (Refer to page 89.)
COMPOSER	Storage is not possible.	• The remaining memory capacity of the **COMPOSER** is 0.
	Setting the time signature and number of measures is not possible.	• The time signature and number of measures cannot be changed for a pattern which is currently recorded in the **COMPOSER**. If you wish to change the time signature and/or measure data, first follow the procedure to clear the memory. (Refer to page 107.)
	The playback timing of the rhythm pattern is different from the timing with which it was recorded.	• The QUANTIZE function was on when the pattern was recorded and the timing was automatically corrected. Set the quantize level to a smaller note unit or to OFF when recording. (Refer to page 110.)
Disk Drive	The Disk Drive produces a noise during recording or playback.	• This occurs when the Disk Drive is reading a disk. It does not indicate a problem.
	When the procedure to load from a disk is performed, the contents of the keyboard memory are erased.	• When performing the load operation from a disk, the keyboard memory changes to that of the data loaded from the disk. If you wish to preserve a song which is stored in the keyboard memory, save it on a disk before performing the load procedure. (Refer to page 124.)
MIDI	Data cannot be exchanged through MIDI terminals.	• The switch for the **COMPUTER** terminal is not set to **MIDI**. Turn off the power to this instrument and set the switch to **MIDI**. (Refer to page 181.) • Match the channels on the transmitting side and the receiving side. (Refer to page 168.)
	The sound quavers or is distorted.	• When the **COMPUTER** terminal or both the **MIDI IN** and **OUT** terminals are connected to a computer, depending on the computer software the received data may be sent back to the instrument just as it is. Because of this the sound generated from the keys and the sound generated from the returned data are both produced, causing undesirable effects, such as the sounds canceling each other out, for example. In this case, either change the software settings to prevent received data from being returned, or set the MIDI LOCAL CONTROL to off.
Other	Noise from a radio or TV can be heard.	• This sometimes occurs when electrical equipment such as a radio or TV is used near the instrument. Try moving such electrical equipment further away from the instrument. • The sound may be coming from a nearby broadcast station or amateur radio station. If the sound is bothersome, consult your dealer or service center.
	The cabinet becomes warm during use.	• This instrument has a built-in power source that heats the cabinet to some degree. This is not an indication of trouble.

Error messages

No.	Contents
00	The data on the disk that you are using is for a different product.
01*	An error has occurred while the disk was loading. Please try again!
02	There is no disk in the Disk Drive.
03	The file that you tried to load is empty.
05	An error has occurred while the disk was saving. Please try again!
06	The disk that you are using is write protected. Please remove the write protection and try again.
07	The disk that you are using is full. Please use another disk.
08	An error has occurred while the disk was formatting. The disk that you are using may be faulty. Please try formatting another disk.
10	The data is already copy protected.
15	The song you are trying to save is empty.
16	This STANDARD MIDI FILE is incompatible with this instrument and cannot be loaded.
17	This is not a STANDARD MIDI FILE.
18	The timebase (PPQ resolution) that you tried to load is not 24/48/96/192/288/384 PPQ.
19	This is a FORMAT 1 MIDI FILE disk and cannot be played back.
20	A problem has occurred with your **SEQUENCER** Data. This might be due to a damaged or faulty disk.
21	Memory full
22	It is necessary to press PUNCH OUT to complete this procedure.
23	It is impossible to change the time signature because it has already been set in the existing tracks.
24	A rhythm track already exists. It is impossible to assign two tracks to rhythm.
25	It is only possible to change the velocity on a melody track.
26	It is only possible to merge melody tracks. Tracks such as rhythm, chord and control cannot be merged.
27	It is only possible to copy melody tracks. Tracks such as rhythm, chord and control cannot be copied.
28	This song is too long to be saved as a MIDI file.

*This error message may also appear because of interference, such as static electricity.

No.	Contents
29	The MIDI file that you have tried to load exceeds the memory capacity of this instrument and cannot be played. The **SEQUENCER** memory has been cleared.
30	It is not possible to change the time signature or measure length of a **COMPOSER** pattern after it has been recorded. If you want to proceed, you must first clear the entire **COMPOSER** pattern.
31	The time signature of the pattern from which you are copying is different from the **COMPOSER** memory that you are using. Either: Change the time signature of the **COMPOSER** memory or: Copy from a pattern that has the same time signature
32	Memory full
33	Select a Track before setting parameters for AUTO PUNCH RECORD.
40	The Identification (ID) code of the system exclusive data received by this instrument is for a different product.
41	An error has occurred during system exclusive data reception. The data from the transmitting device may be incomplete. Please try again.
42	An error has occurred during system exclusive transmission. The data has not been received correctly. Please try again.
43	The file that you are trying to load was saved on a previous KN keyboard. It is only possible to load using the "PERFORMANCE" option.
46	It is only possible to insert MELODY Tracks. Tracks such as RHYTHM, CHORD and CONTROL cannot be inserted.
47	This procedure is not possible with a composer pattern or the metronome. Please select a preset rhythm pattern.
54	Please select a USER bank.
55	Special tracks such as CHORD (APC), RHY and CTL exist in the song from which you are copying and are incompatible with the destination song because it is in the GM mode.
56	AUTO PUNCH recording has been unsuccessful because **SEQUENCER** operation was interrupted before the PUNCH OUT measure was reached.

No.	Contents
58	The song that you have tried to load exceeds this instrument's available memory and cannot be loaded. The selected song memory has been cleared. Please clear existing songs in the instrument's memory using SONG CLEAR to make more memory available, and try again.
62	The computer connection is not active because the computer port switch is set to MIDI. Please turn the power off, set the switch to the desired setting and turn the power back on.
64	Please select the Panel Memory that you want to name.
65	It is not possible to use the CHORD FINDER in this mode. Please select CHORD FINDER from HOME page or CHORD STEP RECORD page.
66	SOLO pads are special pads which include Chord information. Pleases use SOLO pads when the rhythm and accompaniment is playing.
67	There are no APC or CHORD tracks. Select and APC track or CHORD track, and try again.
68	It is not possible to record directly into the SOLO pads. Record on the SEQUENCER and Copy the melody and chord information into a SOLO pad.

Examples of general settings

■ **Discontinue the messages such as "Are You Sure?" because they are bothersome.**

1. Press the **PROGRAM MENUS** button to turn it on.

2. On the CONTROL MENU display, select DISPLAY TIME OUT.

3. Set the message categories you do not wish to appear to OFF, and press the OK button.

■ **Retain the sound and rhythm select displays.**

1. Press the **PROGRAM MENUS** button to turn it on.

2. On the CONTROL MENU display, select DISPLAY TIME OUT.

3. Set the SOUND/RHYTHM SELECT to HOLD, and press the OK button.

■ **KN1600: Arrange your favorite MUSIC STYLE selections in the desired order.**

1. Use the **MUSIC STYLIST** to select a favorite MUSIC STYLE.

2. Immediately store the settings in the **PANEL MEMORY**.
- The style name is also copied.

3. Repeat steps 1 and 2 to store the music styles in the desired order.

4. Press and hold the **SET** button, and select EXPAND on the PANEL MEMORY MODE display.

■ **Minimize the floppy disk load/save time.**

1. Insert a floppy disk into the Disk Drive slot.

2. On the DISK MENU display, select LOAD or SAVE.

3. On the PAGE 2 (LOAD OPTION/SAVE OPTION) display, set unessential data to NO.

4. Press the LOAD/SAVE button.
- In the initialized state, all the PERFORMANCE data is selected to be saved, and all the saved data is selected to be loaded. In order to avoid unnecessarily large data size and/or to shorten the load time, it is suggested that you use this method to collectively save only the necessary data. Then when you load data from the disk, only the data you selected to save is loaded without your having to access the LOAD OPTION.
- The SAVE OPTION allows only BANK 1 of the **PANEL MEMORY** to be saved. When data is loaded, only the BANK 1 data is overwritten; the other banks are not affected.

■ **Name a floppy disk.**

1. Format a floppy disk.

2. On the DISK NAMING display, enter a name.
- The current contents of the disk are erased when the disk is formatted.

■ **Use part of commercially sold GM (SMF) song data as a COMPOSER pattern.**

1. On the SMF LOAD display, set LOAD AS to GM→TECH, and load the song to the **SEQUENCER**.
- The sound numbers, drum kit instrument arrangement, octave, volumes, etc. for GM are automatically changed to the Technics standard settings.

2. Use the SEQ TO COMPOSER COPY of the **COMPOSER**, to copy the desired portion of the loaded data to the **COMPOSER**.
- You can use the TRANSPOSE function on this display to adjust the key.

■ **KN1600: Switch the TREMOLO SLOW/FAST of the DIGITAL DRAWBAR without accessing the DIGITAL DRAWBAR display.**

On the CONTROL MENU, for FOOT CONTROLLERS, assign the ROTARY SLOW/FAST function to the desired FOOT SWITCH.

For **PERFORMANCE PADS**, select Control Preset Bank, and press pad 1.

■ **Block storing of MIDI settings at beginning of each SONG stored in the SEQUENCER.**

The MIDI settings for each part or for parts in common are stored at the start of each recorded **SEQUENCER** SONG and when PANEL WRITE is executed. Normally, these MIDI settings are not recalled when data is loaded; however, the setting can be changed to allow these MIDI settings to be loaded.

1. Press the **PROGRAM MENUS** button to turn it on.

2. On the MIDI SETTING LOAD OPTION display of the MIDI MENU, set "From Sequence Song" to YES.

3. After adjusting the MIDI settings, follow the procedure to record in the **SEQUENCER**.

4. If you wish to change and store the MIDI settings after recording in the **SEQUENCER**, change the settings and then execute the PANEL WRITE function.

- Load the MIDI settings after selecting a different SONG, after using SEQUENCER SONG LOAD to load from a floppy disk, after executing SONG COPY to copy to the currently selected SONG, etc.

■ **Specify directly PROGRAM CHANGE NUMBERs of connected external MIDI equipment.**

On the PROG. CHANGE MIDI OUT display of the MIDI MENU, set each parameter, and press the SEND button.

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Specifications

		SX-KN1400	SX-KN1600
KEYBOARD		61 KEYS (WITH INITIAL TOUCH)	
SOUND GENERATOR		PCM	
MAX. POLYPHONY		64 NOTES	
SOUNDS	NUMBER OF SOUNDS	247 SOUNDS + 13 DRUM KITS	256 SOUNDS + 13 DRUM KITS + 2 DIGITAL DRAWBARS
	SOUND GROUP	PIANO, GUITAR, STRINGS & VOCAL, BRASS, MALLET & ORCH PERC, ORGAN & ACCORDION, SAX & WOODWIND, SYNTH & DANCE, GM SPECIAL, BASS, DRUM KITS, DIGITAL DRAWBAR (KN1600)	
	GM SOUNDS	128 SOUNDS	
EFFECT		SUSTAIN, DIGITAL EFFECT, DSP EFFECT × 2, ACOUSTIC ILLUSION, DIGITAL REVERB	
WHEEL		PITCH BEND	PITCH BEND, MODULATION
PART SELECT		RIGHT 1, RIGHT 2, LEFT	
TRANSPOSE		G–C–F♯	
RHYTHMS	NUMBER OF RHYTHMS	128 RHYTHMS × 4 VARIATIONS	
	RHYTHM GROUP	8 & 16 BEAT, ROCK & POP, FUNK & SOUL, DANCE POP, BALLAD, SWING & JAZZ, USA TRAD, COUNTRY, MARCH & WALTZ, LATIN, WORLD	
CONTROLS		MAIN VOLUME, BALANCE, MUTE, CONDUCTOR, START/STOP, INTRO & ENDING 1, INTRO & ENDING 2, FILL IN 1, FILL IN 2, COUNT INTRO, SYNCHRO&BREAK, TEMPO/PROGRAM, TAP TEMPO, FADE IN/OUT, SPLIT POINT	
PERFORMANCE PADS		20 BANKS × 6 PADS WITH SOLO (USER BANK × 3 [STORAGE CAPACITY: APPROX. 3500 NOTES], COMPILE BANKS × 2, CONTROL PRESET × 1) STOP/RECORD, AUTO SETTING	
AUTO PLAY CHORD		MODE: ONE FINGER, FINGERED, PIANIST MEMORY, ON BASS, CHORD FINDER, LEFT HOLD	
MUSIC STYLE ARRANGER		○	
SOUND ARRANGER		○	
MUSIC STYLIST		—	○
ONE TOUCH PLAY		○	
TECHNI-CHORD		○	
PANEL MEMORY		3 BANKS × 8, SET, NEXT BANK, BANK VIEW	
SEQUENCER		16 TRACKS RESOLUTION: 1/96 PER BEAT STORAGE CAPACITY: APPROX.40000 NOTES (10 SONG MAX.) INPUT MODES: EASY RECORD, REALTIME RECORD, STEP RECORD FUNCTIONS: CREATE, EDIT	
COMPOSER		5 PARTS: BASS, ACCOMP 1, ACCOMP 2, ACCOMP 3, DRUMS STORAGE CAPACITY: APPROX. 10000 NOTES INPUT MODES: EASY COMPOSER, REALTIME RECORD, STEP RECORD FUNCTIONS: PATTERN COPY, SEQ TO COMPOSER COPY, LOAD SINGLE COMPOSER, BEND RANGE SET MEMORY: 3 BANKS × 10 (VARIATION 1–4, INTRO 1, 2, FILLIN 1, 2, ENDING 1, 2)	
DISK DRIVE		3.5 inch FLOPPY DISK DRIVE for 2HD (1.44MB), 2DD (720KB) LOAD, SAVE, DIRECT PLAY, SONG MEDLEY, DISK TOOLS, PREFERENCES, STYLE CONVERT (KN1600)	

	SX-KN1400	SX-KN1600
SOUND SETTING	PART SETTING, MIXER, MASTER TUNING, KEY SCALING, TECHNI-CHORD, REVERB & EQ PRESETS, REVERB, EQUALIZER, DSP EFFECT, ACOUSTIC ILLUSION	
SOUND EDIT	EASY EDIT, TONE SELECT, TONE LAYER, PITCH, FILTER, AMPLITUDE, DIGITAL EFFECT, CONTROLLER MEMORY: 40, 1 USER DRUM KIT	
CONTROL	INITIAL, OVERALL TOUCH SENSITIVITY, FOOT CONTROLLERS, DISPLAY TIME OUT, PANEL MEMORY MODE, MUSIC STYLE ARRANGER MODE, FADE IN/OUT SETTING	
MIDI	PART SETTING, CONTROL MESSAGES, REALTIME MESSAGES, COMMON SETTING, INPUT/OUTPUT SETTING, MIDI PRESETS, SYSEX BULK DUMP, GENERAL MIDI, PROG. CHANGE MIDI OUT, P. MEM OUTPUT, COMPUTER CONNECTION, MIDI SETTINGS LOAD OPTION	
DISPLAY	LCD PAGE, CONTRAST, EXIT, DISPLAY HOLD	
HELP	○	
DEMO	○	
TERMINALS	PHONES, FOOT SW, EXP PEDAL, LINE OUT (R/R+L, L), COMPUTER, MIDI (IN, OUT)	PHONES, FOOT SW, EXP PEDAL, LINE OUT (R/R+L, L), AUX IN (R/R+L, L), COMPUTER, MIDI (IN, OUT)
OUTPUT	16 W (8 W × 2)	30 W (15 W × 2)
SPEAKERS	12 cm × 2	12 cm × 2, 6.5 cm × 2
POWER REQUIREMENT	DC IN 12V: WITH SY-AD6 or SY-AD6B AC ADAPTOR (SOLD SEPARATELY)	65 W AC120/220/240V 50/60 Hz AC120V 60 Hz (NORTH AMERICA AND MEXICO) AC230–240V 50/60 Hz (EUROPE, AUSTRALIA, NEW ZEALAND, SINGAPORE AND PHILLIPPINES)
DIMENSIONS (W × H × D)	105.7 cm × 16.2 cm × 40.4 cm (41-5/8' × 6-3/8' × 15-29/32')	
NET WEIGHT	9.3 Kg (20.5 lbs)	11.3 Kg (25 lbs)
ACCESSORIES	MUSIC STAND	AC CORD, MUSIC STAND, STYLE CONVERT DISK

- Design and specifications are subject to change without notice.
- In some markets, some models may not be available.

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